A Comparative Analysis Of Impacts on Competitiveness Of Environmental Assessment Requirements

A Final Report
Submitted to:

The Canadian Environmental Assessment Agency

Submitted by:

RIAS Inc. and
Gartner Lee Limited

Toronto • Ottawa • Montreal
Vancouver • Whitehorse • Yellowknife
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PREAMBLE TO THE REPORT:
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The following is a report commissioned by a Steering Committee that was initiated and chaired by the Agency. This committee brought together representatives from the trade and policy sections of the Department of Foreign Affairs and International Trade (DFAIT), as well as representatives from Industry Canada, Natural Resources Canada, and the Export Development Corporation (EDC). All of these parties shared an interest in issues surrounding the impact of environmental assessment regulations and requirements on the competitiveness of industry, and Canada's ability to attract investment.

The report consisted of a comparison of the national environmental assessment regimes of some of Canada's primary competitors as well as interviews with a small number of multinational corporations on the issue of environmental assessment and competitiveness. In addition, the consultant was asked to obtain some preliminary views from multinational corporations on the application of environmental assessment requirements to export credit activities. This last section was prompted by the recent commitment by the federal government in its Response to the Standing Committee on Foreign Affairs and International Trade Report on the Review of the *Export Development Act* (ED Act) to strengthen EDC's environmental policy in either of two ways: by including EDC's environmental review framework in the ED Act or by establishing an EDC regulation under the *Canadian Environmental Assessment Act* (CEA Act). The views expressed by these multinationals on the issue of environmental assessment and export credit highlight some of the important factors which must be taken into consideration in the strengthening of EDC's environmental policy using either of these two options.

The interview question was based on a hypothetical scenario that would see export credit activities subject to the domestic requirements of the CEA Act. It should be noted, however, that the CEA Act provides for the development of regulations for Crown corporations to permit sufficient flexibility so that the specific circumstances of each Crown corporation can be taken into account. In the case of the EDC, this would specifically relate to the need to maintain Canadian commercial competitiveness in the international market.

This work was undertaken in part to support the work of the Five Year Review of the *Canadian Environmental Assessment Act* and complements the outcome of our national consultations. The findings from this study, as well as all other input on this and all other environmental assessment issues from concerned Canadians are taken into consideration in making improvments to environmental assessment.

Executive Summary

Objective

The objective of this study was to determine where Canada ranks in relation to eight selected competitor nations with regard to the impacts (benefits and costs) each country's EA regime has on:

- an international firm's decision to invest in a country;
- the firm's subsequent project planning and implementation processes;
- a firm's ability to enter into and compete in international tendering and bidding processes; and,
- the bottom line costs of products that compete for share in the marketplace.

A second objective of the study was to survey a small sample of multi-national firms to determine their views regarding the potential competitiveness impacts on Canadian firms if the export credit financing of Canada's Export Development Corporation (EDC) were to be subject to the requirements of the Canadian Environmental Assessment Act (CEAA).

Approach and Caveats

To achieve these objectives, we used two research tracks, which proceeded simultaneously because of a time constraint.

1. A comparative analysis of the EA regimes of the eight selected countries (Canada, the US, the UK, Germany, France, Australia, Japan and Chile) was undertaken. The EA regimes were compared and rated against 15 key factors, through desktop research, interviews and follow-up emails/discussions.
2. A set of interviews was completed with representatives of multi-national enterprises (MNEs) to determine whether EA regimes were a component of national competitiveness, and to collect views from affected firms about any real-world impacts (positive and negative) of national EA regimes on the competitiveness of the affected firms.

The MNE's were selected from sectors currently subject to the Canadian Environmental Assessment Act. They represented the mining, energy, manufacturing, chemical, forest products and telecommunications sectors. For the issue of export credits and EA, we selected multinational firms in the fields of consulting engineering (design/build) and manufacturing (power equipment, pulp and paper equipment, etc.)

The following caveats to our findings are important to note.

- The research is preliminary only. We accept that there will be differences in opinions as to where a country should be placed in our simple scoring frameworks, and whether the 15 critical elements that we selected *a priori* are complete or the most important indicators of competitiveness. To this end, we identify some useful research topics at the end of Chapter 6.

- National EA regimes are examined from a competitiveness perspective only. Other aspects of EA (e.g., sustainability, equity, effectiveness) are not considered.

- Elements of EA regimes are not directly comparable. The differences in EA regimes due to differences in national political and judicial systems are not fully considered.

- The company research involved only large multinational enterprises (MNEs). EA regimes are likely to have different competitiveness effects on smaller companies. A total of 18 MNEs participated. Each had only a small number of projects that had undergone national EAs recently.

- For this study, we could not make some important distinctions. For example, we could not distinguish between projects that experienced difficult EAs because of deficiencies in a company's approach or project design, and those that encountered problems due to the EA regime itself.

Conclusions

Overall Comparison of National EA Regimes

Each country has developed its own EA regime within its own national political and judicial system, and each EA regime has its own unique qualities, custom features and deviations, its own set of advantages and disadvantages. The following provides some general conclusions regarding the EA regimes examined in this study.

- Canada, the United States and Australia share many of the same characteristics or features in term of the EA regimes. To date, each has established non-statutory mechanisms for EA co-ordination and harmonization among its jurisdictions. Australia's new EA legislation, on the other hand, is intended to address many of the issues facing Canada and the United States regarding competitiveness and EA. However, substantial experience with this new Act has not yet been demonstrated.

- The European Community nations (United Kingdom, France and Germany) examined in this study have similar EA regimes due to their move towards EA harmonization through the adoption of European Commission directives concerning EA and other international initiatives. Differences among these nations exist, however the fundamental premises of their EA regimes remain similar.

- The EA regimes of Japan and Chile are unique in many respects. The focus of environmental assessment in Japan is different from other developed countries as the environmental assessment regime in Japan tends to be less concerned with procedural detail than with the technological capacity to deal with environmental impacts. Chile, on the other hand, has developed a centralized one-window approach to EA and project approvals by placing the burden of implementing and administrating the EA regime on the National Environmental Commission(CONAMA) and its Regional Environmental Commissions (COREMAS).

The approach taken by Canada differs from most of the other countries examined in this study in terms of the following factors:

- *Type of EA Process*

  Opportunities to 'scope' the assessment are not as formalized in Canada as elsewhere;

- *Scale of Projects Subject to EA*

  The Canadian EA regime can apply to small scale, medium and large scale projects. Most other EA regimes focus more on medium to large scale projects.

- *Nature of Approvals Received*

  Final project approvals need to be obtained through permitting processes of individual federal authorities in addition and subsequent to the EA process. Other (but not all) EA regimes offer a more integrated approach to project approvals.

- *Prescribed Steps*

  The steps that need to be taken to complete the EA process are partially prescribed in legislation or regulations. Most other countries prescribe the steps to complete an EA within statutory instruments.

- *Timelines*

  The Canadian EA regime offers a mix of both EA start-up and completion timelines depending on the EA track. Other EA regimes either do not specify any timelines or prescribe timelines for both EA start-up and completion.

- *Roles and Responsibilities*

  Non-statutory mechanisms are relied upon for harmonization among jurisdictions and coordination of the EA process within the federal government. Other EA regimes either rely more on statutory mechanisms or do not need to harmonize EA processes with other jurisdictions due to their national political structures.

- *Decision Levels*

  Other EA regimes tend towards completely decentralized or centralized systems for decision-making. In Canada, decision levels vary depending on EA tracks.

- *Participant Funding*

  Canada is unique in that the CEAA includes provisions for participant funding for Panel reviews and mediations.

- *Institutional Capacity Building*

  Institutional capacity building is viewed as a core activity of the federal government. Most other countries rely more on academia and the private sector to provide training to EA practitioners.

National Competitiveness and National EA Regimes

- National EA regimes are not a primary factor in corporate investment location decisions for these MNEs. The MNE representatives were of the view that EA regimes should not expect to be a positive factor. The best EA regime would be more likely to be viewed as the absence of a negative, rather than as a positive.

- Project profitability is the single most important factor in industry investment location decisions. Corporations measure project profitability in different ways and consider different factors in calculating it, but it is the primary factor. The secondary factors most often cited in investment location decisions were: economic environment, proximity to customers/raw materials, construction costs, land/property rights and political factors.

- Although national EA regimes are not a primary factor in national competitiveness, EAs can affect the profitability of a project, usually by causing or contributing to project delays. None of the companies had estimated economic costs of project delays that were contributed to by EA delays.

- There were no serious disconnects identified between the national EA regimes and normal project planning and implementation activities of the firms. In some projects, the companies reported doing significantly more than the national EA regime had called for. About 1/3 of the companies used the World Bank's standards as the basis for their corporate EA policies.

Company Competitiveness and National EA Regimes

- The participating MNEs did little international tendering and bidding, and so we were unable to draw conclusions as to whether EAs had an effect on that measure of competitiveness.
- EAs were reported to affect the second measure of competitiveness used, i.e. the ability of a firm to access markets and compete for market share. The US and Canadian EA regimes were the only two countries to receive significant negative ratings on this competitiveness measure.
- National EAs did not cause significant increases in the prices for the products/commodities that resulted from the projects. Many of the firms were price takers in their markets, rather than makers. Profitability would be affected before prices.
- In general, EAs did not cause significant incremental costs for project planning and implementation. Three exceptions were identified: two EAs in Canada and one in the US . All three had resulted in significant increases in the anticipated project planning and implementation costs.

Relative Impacts on Firm Competitiveness of National EA Regimes

We used two approaches to rank the eight countries in terms of their relative impacts on the competitiveness of the affected firms. The first approach was based on the de jure comparison of EA regimes against 15 key factors; the second was based on the e facto assessments of the MNE representatives. We caution again that this ranking uses simple arithmetic to do complex comparisons. It is intended to be directional only, indicating possible areas for further research.

In both approaches, *Chile* came out on top as having the highest ranking on competitiveness. *Chile* had the smallest number of factors that impeded competitiveness, and the largest number of factors that promoted competitiveness. The practical experiences of the companies supported that finding. *France* and the *UK* were generally in second place, for both the de jure and the de facto analyses.

The *USA* occupied mid-to low rankings in the de jure analysis, with a fairly low number of factors promoting competitiveness and a high number of factors impeding competitiveness. However, the USA ranked the lowest in the de facto findings based on the companies' experiences. The negative US rankings arose from the experiences of two companies in a State that was reported to have a long history of antagonism towards primary industries, and a third company that had decided that EAs, and environmental permitting in general, had become too difficult in the US.

Canada, in the de jure analysis, had a relatively small number of factors impeding competitiveness but few factors promoting it. Canada scored the highest number of entries in the middle of the competitiveness scale. Canada rated the second lowest in the de facto competitiveness scoring, just ahead of the USA. The negative Canadian rankings by three companies arose from their concern about timeliness of the Canadian processes and a perceived lack of technical and process knowledge on the part of the Departments that had been designated as Responsible Authorities.

Benefits to Companies of National EA Regimes

The companies identified a small number of cases in which they had gained some benefit from participating in national EAs but they were minor. Their view was that, generally, their own environmental assessments went beyond most national EAs. The companies believed that, frequently, they provided technical support to the agencies carrying out the national EA.

Export Credit Financing And Domestic EA Regimes

The USA (through the *EXIM* bank) was identified as the only OECD country that, in the companies' views, applied a formal EA regime to its export financing projects. One of the Canadian companies identified 12 projects (a total value of about $1 billion) that its international parent did not source out of US manufacturing facilities because of concerns about the long time and cost of *EXIM* processes. The EAs of *EXIM* contributed to the time and cost. Host countries representatives frequently raised sovereignty concerns about subjecting a project in their country to the EA laws of the financing country.

The company representatives urged the Federal Government not to impose the requirement that export credit financing be subjected to CEAA, nor to any other environmental review framework that went significantly beyond what was requested of their international competitors and sister companies. Exports were more important to the Canadian economy than to the US. These Canadian firms competed against companies from countries such as China that had no environmental requirements as part of their export credit financing that was already concessional when compared to the OECD norms that bound Canada. One company estimated that it would lose about 50% of its export sales (30% of total sales) of Canadian-manufactured equipment if such a change were to be made. The international parent would source the manufacturing from a sister company in another OECD nation that did not place such a requirement on its export financing.

The representatives recommended strongly that the Government support the EDC in its efforts to lead the OECD to adopt a common set of environmental assessment standards for all export credit agencies. This would still leave Canadian industry at a competitive disadvantage to the non-OECD firms, but at least the export financing of the OECD nations would be on a level basis. They also urged the government to resolve quickly the current uncertainty surrounding export credit financing and environmental reviews.

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1. Background and Purpose

It has been five years since the Canadian Environmental Assessment Act (CEAA) was passed into law. Section 72(1) of the Act requires that a comprehensive review of the provisions and operation of the Act be undertaken by the Minister at this time. The five-year review is now underway and the Ministry is required to report to Parliament by January 1, 2001 on the review.

Competitiveness has always been an important consideration in designing the Canadian Environmental Assessment (EA) regime. Canada must compete internationally for investment and Canadian firms must be able to market and sell their products and services internationally. EA regimes, along with the many other elements of a society's policy mix and practical realities, have a role to play in ensuring appropriate competitiveness.

The purpose of this project, carried out for the Agency and its Federal Department partners on the project steering committee, was to prepare a comparative assessment of:

- the impacts of national EA regimes on national competitiveness for industrial investment;
- the effect of national EA regimes on the ability of a country's firms to compete in international bidding and tendering processes; and,
- the impact of national EA regimes on the price of the subsequent product or service.

The results of this analysis will be used in the ongoing work of the Agency and other government departments, and will also contribute to the five-year review of the Act. We point out that this project was intended to compare national EA regimes from the narrow perspective of competitiveness only. Clearly, a nation would consider many other perspectives such as sustainability, social justice and equity and others, in designing its EA regime. Competitiveness is an important perspective, but it is not the only one.

We carried out two tasks to prepare the assessment:

- a comparison of key features of the EA regime of Canada with the EA regimes of eight of its major competitor nations (the US, the UK, Germany, France, Italy, Australia, Japan and Chile); and,
- interviews with representatives of a selected set of multinational firms that are subject to EA regimes in these countries.

Early on in the research, it became evident that Canadian businesses that exported capital goods (power equipment, etc.) using export credit wished to make their views known on the possibility of having to meet new Canadian EA requirements prior to obtaining such credits. These companies had issues that were quite different from the main thrust of this work. The research program was adapted to include a representative set of these firms and the result of that research is presented here also.

2. Report Format

The remainder of this report contains four sections, as follows.

Section 3. **Scope, Definitions and Key Features of Methodology**

Summarizes the main scoping decisions that guided our work, technical definitions of terms such as "competitiveness" and the key features of the methodology that we used in each of the two main tasks. This technical material is important to understand the strengths and limitations of the research that we have carried out.

Section 4. **The Umbrella Comparison of National EA Regimes**

Compares the national EA regimes of the selected countries in terms of a set of 15 key features of approaches to environmental assessments of industrial projects. This comparison highlights the differences and similarities between Canada's EA approach, and the approaches of the selected eight competitor nations. These key features are then used to explain the results of the competitiveness research with the multinational corporations.

Section 5. **Research with Multinational Corporations**

Presents the results of our interview program with selected multinational corporations in the fields of forestry, mining, energy, chemicals, manufacturing, consulting engineering and others. We identify first the primary decision factors that determine how these corporations make their investments and then discuss the role of EA regimes in the corporations' decisions to invest in the 9 selected countries. We also explore the impacts of national EA regimes on several measures of industry competitiveness, and the extent to which national EA regimes correspond or conflict with normal business practices. The findings on the export credit issue are presented here also.

Section 6. **Key Findings and Conclusions**

Summarizes the findings and conclusions about the comparative assessment of Canada's national EA regime on both the national competitiveness of Canada for industrial investment, and the post-EA industrial competitiveness of these firms that are subjected to national EAs. The key features of Canada's current EA approach, from the perspectives of these multinationals' representatives, are identified and discussed. We also identify some possible topics for further research.

A set of appendices, bound separately, contains supporting technical material.

3. Scope, Definitions and Key Features of Methodology

3.1 Approach to the Umbrella Comparison of Environmental Assessment Regimes

3.1.1 Scope and Definitions

The national Environmental Assessment (EA) regimes (legislative and regulatory) of eight countries were the main focus of this comparison with the EA process governed by Canadian Environmental Assessment Act. The eight countries initially included in this comparison were:

- The United Kingdom
- Germany
- France
- Italy
- United States
- Japan
- Australia
- Chile

Italy was dropped from the comparison study because of the lack of appropriate secondary source information and difficulties in engaging Italian representatives in the study. However, because Italy is a member of the European Community, its EA process will reflect the directives of the European Commission and will be similar in many respect to its European counterparts.

The specific areas of research for each country's EA regime were based on the 15 critical elements of national EA regimes identified in the Request for Proposal for this project. These 15 critical elements and their sub-elements are provided in the table below.

Table 1. The Comparison Framework

Critical Element	Sub-Element / Area of Research
1. **Strategic Purpose**	• Stated Purpose / Objectives • Definition of Environment • Consideration of Need and Purpose of the Project • Consideration of Alternatives • Consideration of Cumulative Effects • Consideration of Follow-up
2. **Type of EA Process**	• Project EA Types • EA Process / Track
3. **Types of Projects Covered**	• Clarity and Certainty Regarding Scope of Coverage for projects • Nature of Projects Subject to EA • Extra-Jurisdictional EA

Table 1. The Comparison Framework

Critical Element	Sub-Element / Area of Research
4. Scale of Projects Subject to EA	• Exclusions • Scale of Project
5. Nature of the Approvals Received	• General
6. Prescribed Steps	• Clarity and Certainty of Prescribed Steps • Formal Decision Points
7. Timelines	• Start-Up Timelines • EA Completion Timelines
8. Roles and Responsibilities	• Co-ordination Procedures • Existing Institutional Arrangements with Other In-Country Jurisdictions (i.e., provinces, states, regions etc.) • Existing Institutional Arrangements with Other Extra-jurisdictional EA Processes (i.e., other countries)
9. Decision Levels	• Centralization vs. Decentralization
10. Public Participation	• Legislative Basis for Public Participation (non-hearing/panel review participation) • Legislative Basis for Public Participation for Extra-Jurisdictional Projects • Public Notice Regarding EA • Hearings and Public Reviews • Discretion Afforded to Responsible Authorities Regarding Public Hearings and Reviews • Public Registry Provisions • Access to Confidential or Commercially Sensitive Information
11. Participant Funding	• Legislative Basis for Funding • Discretion Afforded to Responsible Authorities
12. Administrative Appeals and Judicial Review Processes	• Legislative Basis for Non-judicial Appeals of EA Decisions • Privative Clauses / Access to Judicial System
13. Type of Risk Assessment Incorporated into EA	• Requirements for Risk Assessment
14. Institutional Capacity Building	• Legislative Basis for Training • Scope of Training Opportunities • Scope of Guidance Materials for Enhancing Institutional Capabilities
15. Sectoral Requirements or Considerations	• Special EA Requirements for Sectors • Scope of Sectoral Based Training and Guidance Materials

While much of the information about the EA regimes was obtained from existing published sources, Internet sites and other background research completed by the Agency as part of the Five Year review of the Act, structured interviews with EA officials in selected international agencies also provided essential data to fill in gaps and verify the accuracy of our EA process descriptions.

3.1.2 Methodology

- A preliminary, desktop comparison of EA regimes was prepared by reviewing documents and previous studies.
- An interview guide was developed in parallel to the guide for multinational companies.
- Interviews were conducted by telephone with EA officials and project proponents in selected countries.
  - Background information about the project and the interview guide were sent to EA officials in advance of the interviews.
- Some EA officials chose to submit written responses to the interview guide, rather than participating in the telephone interviews.
- Information from the desktop comparison and the interviews were then analyzed, highlighting points of convergence and divergence between Canada's regime and those of the selected countries.
  - Where the analysis relied primarily on the telephone interview, quality assurance and quality control was achieved by providing respondents with a draft of the capsule description of their EA process and a draft comparative analysis for them to comment on and correct. Where the analysis was based on written responses from the EA officials, follow-up emails and telephone calls were used to clarify any areas of uncertainty.

3.2 Approach to the Research with Multinational Corporations

3.2.1 Scope and Definitions

The research with multinational companies (MNEs) examined the competitiveness effects of national EA regimes on the basis of the following three factors, as set out in the Request for Proposal for this project:

1. national competitiveness, defined in the Request for Proposal as the extent to which a national environment is conducive or detrimental to business and investment (i.e., the extent to which a host country's EA regime is a determining factor, as opposed to other regulatory and legislative factors, in a firm's decision to invest);
2. the ability of a firm to access markets and compete for market share with a competitive product or service price; and,
3. the ability of a firm to adapt and compete in a timely manner in the international marketplace and in international tendering and bidding processes.

The research focused on the following industrial sectors:

- Forestry & Forest Products;
- Mining;
- Energy;
- Mining and Manufacturing;
- Engineering/Project Management;
- Chemical;
- Telecommunications; and,
- Other (companies affected by EDC issues).

3.2.2 Methodology

- A detailed interview guide was prepared, with questions based on:
  - The "over-arching issues" and the competitiveness measures identified in the Request for Proposals.
  - The Ongoing Monitoring Program case studies prepared for CEAA by Hagler Bailly.
  - The principles of the BIT-BICAP, as outlined in two Government of Canada publications, "*Designing Effective and Efficient Regulations: the Role of the BIT*" and "*Guide and Manual for Determining the Impacts of Regulation On Business Activities and Their Costs: A Functional-Based Approach To Regulatory Costing*".
  - A set of factors known to affect investment decisions, based on other research in this area.
  - The features of EA that are most frequently cited as affecting competitiveness.
  - The categories of costs likely to be imposed by EAs.
  - The types of benefits that might be attributed to EA.

- Participants were selected for the MNE research based on:
  - Background information collected for MNE candidate companies via websites, our knowledge, and recommendations from industry sector associations.
  - Selection criteria that were developed for both Canadian-based and foreign-based multinational enterprises (MNEs).
  - The availability of appropriate company officials with EA experience and the knowledge and authority to speak for a significant part of their companies' activities.

- Interviews were conducted by telephone with MNE company officials.
  - The interview guide and letter of introduction from CEAA were provided in advance of the interviews.

- Company officials were asked to confirm that both they and their companies could be identified as contributing to the research, but that company specific information would be treated as confidential.
- Quality assurance and quality control was achieved by providing respondents with draft summaries of the interviews for comments and corrections.
- Over 20 interviews were conducted with companies and industry associations. The analysis contained in this report is based on input from 10 Canadian and 5 foreign MNEs, as detailed in the table below.

Table 2. MNE Participation

Sector	Canadian Owned MNEs	Foreign Owned MNEs	Other
Forestry & Forest Products	2	0	• Canadian Pulp and Paper Association interviewed, additional material from Quebec Forest Industries Association received
Mining	3	1	• Mining Association of Canada interviewed
Energy	3	0	• Canadian Association of Petroleum Producers interviewed
Engineering/Project Management	1	0	
Chemical	0	2	• Canadian Chemical Producers Association interviewed, supplied material
Manufacturing	1	1	• Alliance of Manufacturers and Exporters Canada interviewed
Other: Export Credit Issues		4	
Totals	**10**	**8**	

A separate, short interview guide was used to structure the company research into the issue of export credit and national EA regimes.

4. The Umbrella Comparison of National EA Regimes

The following sections provide a capsule description of the EA processes in the seven countries examined in this study. A comparison of these National EA regimes with that in Canada is provided. This comparison is structured according to the 15 EA elements identified in Section 3. For each of these critical elements a hypothesis is put forward regarding how this element might influence national competitiveness. Although no research has been completed to confirm whether or not, nor the degree to which these elements may influence national competitiveness, they were used as indicators on which to base the comparison of EA regimes from a 'competitiveness' perspective. To this end, the reader is cautioned that not all the elements identified below may have an influence on competitiveness, and that others or additional one may be more appropriate. An overall comparison summarizes areas where the Canadian EA regime deviates substantially from most other countries.

4.1 Capsule Descriptions of EA Regimes

4.1.1 Australia

The Commonwealth of Australia's Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), came into force July 16, 2000, and represents a fundamental reform of Commonwealth environment law since the first environment statutes were enacted in the early 1970s.

The Act enables the Commonwealth to join with the States and Territories to provide a national scheme of environment protection and biodiversity conservation. The EPBC Act provides the Commonwealth with the capacity to accredit State environmental assessment processes and, in some cases, State decisions. In particular, the EPBC Act provides a framework allowing the Commonwealth to:

- accredit State processes on a case-by-case basis at the commencement of the EA process;
- accredit State EA processes and systems (avoiding the need to provide accreditation on a case-by-case basis for all projects); and,
- accredit State decisions under specific circumstances.

The EPBC Act replaces five Commonwealth statutes: Environment Protection (Impact of Proposals) Act 1974; Endangered Species Protection Act 1992; National Parks and Wildlife Conservation Act 1975; World Heritage Properties Conservation Act 1983; and Whale Protection Act 1980.

Under the Act, actions that are likely to have a significant impact on matters of national environmental significance are subject to a Commonwealth environmental assessment and approval process. An action includes a project, development, undertaking, activity, or series of activities. There are six matters of national environmental significance that have been explicitly defined in the EPBC Act:

1. World heritage properties;
2. Ramsar wetlands of international significance;
3. Nationally threatened species and ecological communities;
4. Migratory species;
5. Commonwealth marine areas; and,
6. Nuclear actions.

The EPBC Act also applies to actions that are likely to have a significant impact on the environment of Commonwealth land (even if taken outside Commonwealth land) and actions taken by the Commonwealth that will have a significant impact on the environment anywhere in the world.

The EPBC Act adopts a broad definition of 'environment' which includes ecosystems, people and their communities, natural and physical resources, and social, economic and cultural aspects of the environment. All EAs must consider options for the manner in which the project may be undertaken and any alternatives to the project. There are no specific references to cumulative effects, although some EA tracks require a description of the context of the proposed project and its relationship to other projects or proposals in the region.

The key features of the EA process are summarized below:

- A proponent, Commonwealth Agency or State refers the action to the Commonwealth Minister of Environment..
- The Commonwealth Minister of Environment decides whether the action requires approval under the Act.
- If the action is covered by a bilateral agreement accrediting a State EA process or there exists a Ministerial declaration accrediting a Commonwealth process, the action is assessed by the accredited State or Commonwealth Agency, otherwise the Minister decides on the assessment approach. The Minister may choose to assess the project on Preliminary Information, request a Public Environmental Report (PER) or Environmental Impact Statement (EIS), or call for a Public Inquiry. The Minister may also decide to have the action undergo an assessment under an accredited process (case-by-case).
- If a Preliminary Information, a PER or EIS is requested, the project proponent prepares the required documentation.

- The Preliminary Information, PER or EIS is made available to the public for review and comment.
- Within 30 days of the closure of the public comment period, the Commonwealth Environmental Secretary prepares its own assessment report based on the documents provided by the proponent, taking into consideration all public comments received.
- On the basis of the Environmental Secretary's assessment report, the Minister of Environment decides on approval and conditions within 30 days.
- In cases where a Public Inquiry is called, the Inquiry report is provided to the Minister of Environment for a decision.
- In cases, where a project is assessed under another accredited EA process, the State or Commonwealth agency prepares an assessment report which is provided to the Minister of Environment for a decision.

4.1.2 Chile

Chile's General Environmental Law No. 19300, enacted in March 1994, established the EA regime which applies both to public and private sector projects or activities. Supreme Decree No. 30 of the Ministry Secretariat General of the President's Desk, was published in the Official Gazette of April 3, 1997, fully enforcing this law and its regulations. The EA law places the burden of implementing and administrating the EA regime on the National Environmental Commission(CONAMA) and its Regional Environmental Commissions (COREMAS). The various different State Administrative agencies with environmental competence participate actively in this process.

The regulations under the Environmental Law stipulate that projects and activities likely to have an environmental impact, identified in its Article 10, shall undergo a mandatory EA process. Such projects and activities, according to their effects, characteristics and circumstances, shall submit either an Environmental Impact Statement or an Environmental Impact Study. These conditions that determine whether an Environmental Impact Study is required include: a health hazard for the population; significant adverse effects on renewable natural resources; resettlement of human communities, or significant changes in the way of life and habits of human groups; projects adjacent to a protected community, resource or zone; projects that would change the scenic or tourism value of an area; and projects that imply the alteration of the cultural heritage.

The Chilean EA regime defines 'environment' broadly as "the global system made up of natural and artificial elements of physical, chemical, biological, or social-cultural nature (and its interactions) constantly modified as a result of human or natural intervention....." There is no statutory requirement for the consideration of alternatives, however cumulative effects must be addressed within an EA.

The EA regulations also establish the procedures for issuing approvals on environmental assessments, and specify deadlines and conditions. The regulations also prescribe the abatement, restoration or compensation measures that must be incorporated into projects to prevent their adverse environmental impact. They also regulate project development follow-up plans, and supervise the commitments made in the EA. Additionally, the Regulations set forth the environmental permits incorporated into the system, describing the conditions required to issue a permit, and the technical and formal contents that guarantee their compliance.

The key features of the EA process are summarized below:

- The Environmental Assessment process begins with the submission of a Environmental Impact Study or Statement of the project to the COREMA or CONAMA (as appropriate) along with a sufficient number of copies, as appropriate, for distribution to the State Administration Agencies with environmental competence.
- Within the following five (5) days after submission, the respective COREMA or CONAMA examines the documents to ensure the requirements of the Law and Regulations have been met, and if so admits the study for processing by issuing a resolution.
- Within the following three (3) days after the resolution has been issued, a copy of the resolution, including a project abstract, is issued to the municipalities and the provincial governors potentially affected by the project.
- State Administration agencies not having the authority to grant environmental permits for the specific project or activity must report their decision not to participate in the EA process, in writing. Agencies participating in the Assessment have a maximum period of twenty (20) days to prepare and send a report that specify whether or not the project or activity complies with the environmental legislation, including the sectoral environmental permits, if applicable, within their respective competence. They shall also give a grounded opinion as to whether the measures proposed in the Environmental Impact Study fulfill the effects, characteristics, and circumstances set forth in the Law. The competent State Administration agencies participating in the assessment may request the clarifications, amendments or additions that they may deem necessary to understand the study.
- The respective COREMA or CONAMA then prepare an initial Technical Report which is based on the reports of the competent State Administration Agencies participating in the assessment. The Technical Report contains:
    - the general background of the project or activity, its environmental impacts, and any abatement, restoration and compensation measures proposed;

- reference to the reports of the State Administration Agencies participating in the assessment;
- a summary of the observations submitted by citizens organizations and natural persons, and the background of the mechanisms that were implemented to guarantee the informed participation of the organized community, if appropriate;
- the conclusions of each of the aspects related to the compliance with standards of an environmental character. Such conclusions shall specify the factual and legal grounds justifying them. If appropriate, the specific conditions or requirements that have to be met to execute the project are proposed, including the environmental follow-up plan; and,
- an indication of the permits associated to the project or activity.

- The COREMA or CONAMA forward this Report to the State Administration Agencies participating in the assessment, who have a maximum of five days for its approval. If they do not do so, they must give founded reasons for its rejection.
- Once there is evidence of the approval, or rejection and/or once the term of five days has expired, the COREMA or CONAMA shall attach the approvals or rejections received to the Technical Report. Thereafter, the Technical Report with its annex is considered final.
- Only in certain cases, the COREMA or CONAMA as appropriate, may, extend (only once), the deadlines specified in the Law, up to sixty additional days.
- An EA is complete when a resolution is enacted by the authority approving or rejecting the EA Report according to Decree N°30.

4.1.3 France

France was the first European country to adopt an Environmental Assessment Act. *La loi sur la protection de la nature* (Law on the Protection of Nature) requires private and public-sector proponents to conduct an environmental assessment for projects that could have adverse environmental effects. The key purpose of the law is to ensure that project proponents consider the environment when planning a project, to help authorities make better decisions and to inform the public of the project's potential environmental effects.

The manner of applying the law is prescribed in the *décret d'application* (Implementation Decree) which essentially added a project's environmental assessment to the other issues that must be considered by

government administrators who decide whether a project may proceed. Consequently, the EA regime is administered through various legal instruments (laws, codes, decrees, etc.). Examples include: *Le code de l'urbanisme* (i.e., Code of urban planning); *Le code forestier* (i.e., Forestry Code), *Le code minier* (i.e., Mining code), *Le code du domaine public fluvialet al. navigation intérieure* (i.e., Code concerning the public domain of rivers and inland shipping).

The implementation decree created two levels of study: *études d'impact* (impact assessment studies) for projects with potentially moderate or major effects, and *notices d'impact* (notice of environmental impacts) for certain designated small projects with potentially minor impacts. The implementation decree introduced a general requirement to assess all projects. Interviews with EA Officials indicate that this requirement is limited only by a project's physical an financial thresholds (12,000,000 francs) and not environmental sensitivity. EA Officials acknowledged this to be a deviation from other European countries implementing European Commission directives.

The implementation decree does not explicitly define the term 'environment' however, the decree identifies that environmental effects on certain media (i.e., flora, fauna, landscape, soil air, climate, material assets and cultural heritage) need to be considered. The decree also specifically the consideration of the effects on people, public health and security. The impact assessment study for a project should include a baseline information study, an impact assessment, a justification for the preferred option and mitigating measures. Although the implementation decree does not set out either general guidelines that are legally binding or project-class guidelines, process administrators have prepared *guide de méthodes* (advisory procedural manuals) to help proponent prepare their impact assessment studies. There is no statutory requirement to address cumulative effects as not all European Commission directives have been translated into French law.

France is divided into numerous geographical regions called *départements* (departments). Each is headed by a *préfet* (prefect), who is a representative of the central government with wide executive powers. The prefect is appointed by presidential decree. The prefect makes the final decision on most projects which are influenced by the findings generated during the approval processes, including an Environmental Impact Statement.

Public participation requirements in the approval process are defined in the *décret d'application* which afford the public with the opportunity to inspect the project file, meet with the *commissaire enqueteur* (investigation commissioner) and participate in public hearings. Administrative tribunals in the French government appoint a neutral investigation commissioner/officer who manages public access to project files. The *Conseil d'Etat* is the highest court of appeal for tribunals in France's judicial system for administrative law.

The implementation decree of 1977 empowered the Minister responsible for the environment to intervene either by his own initiative or in response to a request from the public. The minister has no formal

authority to assume jurisdiction over the management of a project or to delay the approval process. However, the Minister may make comments on a project's impact and these comments can influence the final decision.

The key features of the EA process are summarized below:

- The proponent prepares and submits its environmental assessment to an authority of the government agency responsible for managing the specific approval process.
- The authority submits the environmental assessment for review to other government agencies with an interest in the project. The Department of the Environment and its regional offices may be consulted on environmental issues.
- The authority examines the environmental assessment and its technical review along with other pertinent information in the project file needed to make a decision.
- The authority makes the project file available to the public in the area affected by or near the project.
- The responsible administrative tribunal appoints a neutral investigation commissioner who manages public access to the project file. The commissioner/officer may require more information from the project proponent and visit building sites. With the consent of the prefect, the inquiry commissioner/officer may also hold public meetings. The written comments received from the public regarding the project are added to the project file.
- At the end of the inquiry the commissioner/officer prepares and submits to the prefect a report containing a synthesis of the contents of the file and his own conclusions.
- The prefect must consider all aspects of the project and decide whether or not the project should proceed and, if so with what mitigating conditions. However, for larger designated projects, the responsible Minister may be empowered to make the decision whether or not the project should proceed.
- The project opponents may appeal the decision through administrative tribunals, including the *Conseil d'Etat*. The tribunals only strike down a decision where the proponent's impact assessment study is deemed inadequate.

4.1.4 Germany

Under the German constitution, the federal government passes detailed legislation on environmental assessment for most projects requiring an environmental assessment. Each of its States passes EA legislation for projects which the federal has no legislative competencies (e.g., state roads). In 1990 the federal parliament passed the Act Implementing the European Council Directive of June 27, 1985 on the Assessment of Effects of Certain Public and Private Projects on the Environment. Article 1 of this Act

contains the federal EIA Act. This legislation caused no significant change in the German administrative law. It integrated environmental assessment into existing permitting procedures, inter alia by amending a variety of federal statutes (i.e., specialist laws such as the Federal Immission Control Act, and the Federal Highways Act) rather than creating an independent procedure running parallel to administrative approval procedures. The EIA Act contains a Schedule which lists those types of projects and permit procedures for which an environmental assessment (a document called an Environmental Statement) is mandatory. The Act applies not only to new projects but also to a considerable number of alterations of existing facilities. At present the EIA Act is being revised in the process of implementing the amended European Council Directive of 1997 (97/11/EC).

The EIA Act determines whether or not a project is subject to an EIA and stipulates the minimum requirements that must be met in carrying out an EIA. To this end, competent authorities have no discretion over these matters. Overall, a project's EIA is only one input to the decision-making process, and consequently it is not the sole determinant in a competent authority's decision. Rather, authorities continue to base their decision on a variety of information required by the 'specialist laws'.

The EIA Act specifies that an EA consider a project's effects on human beings, animals and plants, soil, water, air, climate and landscape, cultural goods and material assets. EA must include a description of the alternatives considered by the proponent and a rational for the selection of the preferred alternative. No specific requirements for the consideration of cumulative effects exist in the EIA Act.

The key features of the EA process are summarized below:

- The competent authority for the Environmental Statement (ES) is the authority responsible for the permit procedure and decision. The project proponent informs the competent authority about a planned project. The proponent may choose to discuss the scope of the assessment (subject, extent and methods), with the competent authority and confirm the type and scopé of documents the proponent will have to submit.
- When there are parallel procedures, the state government assigns to one authority the lead responsibility for co-ordinating key steps in the EIA process. The competent authority is obliged by-law to make available relevant information concerning the project, discuss the scope of the assessment(i.e., subject, extent and methods); and to confirm the types and scope of documents the proponent will have to submit. The competent authority may also ask other authorities, experts and third parties to take part in the discussion.
- As early as possible the proponent prepares and submits its ES to the authority. This document must include a description of the project and the environment; possibly the reasonable alternatives; the types of emissions, effluents and residual substances; a description of significant environmental impacts; proposed mitigation and compensation measures.

- The competent authority distributes all information for comment to other authorities with an interest in the project. The competent authority also receives public comments and holds public hearings on the EIA report.
- The competent authority prepares a summary report of project's environmental impacts to be considered as part of the permitting/licensing program.
- All authorities then prepare an overall evaluation of the EIA as input to the permitting/licensing process that determines whether to project is allowed to proceed.
- The competent authority informs all stakeholders whose names and objections are known of its approval decision and reasons for that decision.

4.1.5 Japan

The Japanese government introduced the concept of environmental impact assessment (EIA) in 1972, when the Cabinet approved guidelines "On Environmental Conservation Measures Relating to Public Works." In August 1984, the Cabinet approved guidelines for a uniform EIA procedure, entitled "On the Implementation of Environmental Impact Assessment." These guidelines prescribed specific rules to be followed for large-scale development projects in which the national government was involved. Since 1984, EIAs have been conducted under these guidelines, as well as under several specific laws (e.g., Public Water Area Reclamation Law) and other administrative guidelines (e.g., Ministry of International Trade and Industry's (MITI's) guidelines for EIAs on power plant construction). Locally, 51 of 59 prefectural governments and designated large cities had their own EIA regulations and guidelines. In 1997, a new national EIA law was enacted and fully came into force in June 1999.

The focus of environmental assessment in Japan is different from other developed countries as the environmental assessment regime in Japan tends to be less concerned with procedural detail than with the technological capacity to deal with environmental impacts. The purposes of the 1997 EIA Law are to establish the procedures for conducting EIAs on large-scale projects which may have significant impact on the environment, and to, based on the results of the EIA, specify environmental mitigation or control measures in order to provide necessary input into project planning.

The basic principles of the new assessment procedure are:

- The assessment procedure requires that project planners express their views on the reduction of the environmental effects of their projects, via the assessment procedure.
- The assessment procedure requires that careful examination be undertaken to determine whether or not the project will meet existing standards and targets related to environmental protection.

- The assessment procedure provides project planners with opportunity to compare their project with other projects, through Environmental Impact Assessments (EIAs), and to introduce better technology to avoid adverse the environmental effects of their projects.

The areas of potential impact to be considered under the National EIA law are: air, water and soil pollution; noise and vibration; ground subsidence; offensive odours; topography and geology; flora an fauna; scenery and outdoor recreation. The assessment of social, economic or cultural impacts are not explicitly required. Similarly, little or no consideration is given to project alternatives or cumulative impacts within the EA.

Projects subject to the 1997 EIA Law tend to be large-scale projects implemented, authorized or approved by the national government that may result in significant effects on the environment. Most projects subject to the process are usually construction activities that may be prescribed with physical thresholds. The EIA Law species two classes of projects. "Class-I Projects" are those of certain scale, for which EIAs must be conducted. "Class-II Projects" are those for which a determination of whether or not EIAs are to be conducted is carried out on an individual basis.

Besides the national system, most of the prefectures and major cities have their own local EIA processes. Some have enacted environmental assessment ordinances that provide for public involvement, the study of socio-economic impacts and monitoring.

The key features of the EA process are summarized below:

- For a Class II Project, the proponent prepares a report regarding the project and submits it to those persons who issue a license, permit permission, authorization or approval.
- The report is provided to the governors where the project is located for an opinion regarding whether an EIS should be required.
- Those persons who issue a license, permit permission, authorization or approval determine whether an EIS is required.
- For a Class I Project or when a Class II project requires an EIS, the proponent prepares a project plan for preparing Environmental Impact Statement. The project plan is essentially a Terms of Reference for the EA, specifying not only the areas which will be assessed, but also the methods and techniques that will be applied. To this end, guidance materials are available to project proponents to assist in the development of a project plan.
- The governor provides comments after making the plan available to the public.

- The proponents prepares a Draft Environmental Impact Statement and summary, and submits it the governor.
- The governor makes the Draft Environmental Impact Statement available to the public and the proponent holds an "Explanatory Meeting". This is not a hearing.
- The governor states his comments taking into consideration comments of mayors of cities, towns and villages.
- The proponent prepares a final Environmental Impact Statement
- The Environmental Impact Statement is made available to the public, the Director General of the Environment Agency.
- The Director General of the Environment Agency provides comments on the EIS after which licenses or other required approvals are issued following a determination of whether proper consideration has been given to environmental protection
- The proponent implements their project with due consideration to the protection of the environment after the final Environmental Impact Statement is made public.
- The proponent prepares a follow-up survey plan, undertake the follow-up survey and submits a follow-up survey report to the governor.

4.1.6 United Kingdom

Environmental Impact Assessment (EIA) became a statutory requirement for certain projects in July 1988 when the European Economic Community EIA Directive (85/337/EEC) came into effect. No single piece of legislation gives effect to the requirements of the Directive; rather these requirements are directly integrated into existing development consent procedures.

The main Regulations relating to EIA are the Town and Country Planning (Environmental Impact Assessment) Regulations 1999 (covering England and Wales); the Environmental Impact Assessment (Scotland) Regulations 1999 and the Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 1999. The majority of projects subject to EIA obtain permission to go ahead through the town and country planning system and are subject to one of these regulations. Other projects for which EIA is required obtain approval through other procedures and legislation (e.g., highways, power stations, harbours and ports, salmon farms and land drainage schemes. The consent procedures which apply to these other developments are largely consistent with those of the town and country planning system. For relevant projects, the regulations require that an Environmental Statement (ES) is prepared and submitted to the appropriate competent authority before permission may be granted for the development to go ahead. For projects within the town and country planning system, the competent authority is typically a Local Planning Authority (LPA). For the other consent procedures, it is usually the relevant Secretary of State (e.g., Trade and Industry or Agriculture).

The EA regime in the United Kingdom has adopted a broad definition of the 'environment' including its bio-physical, socio-economic. and cultural components. EAs must include an description of alternatives considered and a rationale for the selection of the preferred alternative. The consideration of cumulative effects is specifically included in the definition of 'effect'.

The key features of the EA process are summarized below:

- Details of the categories of projects subject to EIA are specified in Schedules to the relevant Regulations. These specify whether EIA is mandatory (those projects that fall within Annex I of the European Commission Directive) or whether the project requires an assessment only if it is likely to have a significant effect on the environment (those that fall within Annex II to the Directive). Where a project within a category in Annex II is likely to have significant effect on the environment, then an assessment is always required. A project may have a significant effect on the environment by virtue of its size, location or nature. Annex I and Annex II are virtually identical to the European Commission directive schedules, with a few minor variations.
- For Annex II projects, the determination as to whether or not a project will have a significant effect on the environment is made by the competent authority according to thresholds or on a case-by-case basis. For projects that are authorized within the town and country planning system, "exclusive" or "de minimis" thresholds published in the Regulations apply and these provide a screening facility for very small-scale projects. Projects that exceed these exclusive thresholds must be screened individually on a case-by-case. To help with this, indicative thresholds have been provided for a number of projects. For projects authorized under the planning system, an applicant may ask the Secretary of State for the Environment to take the screening decision if the planning authority fails to do so within a specified time period. In other consent procedures, the relevant Secretary of State is usually the competent authority.
- In cases where an ES is required, the proponent determines its scope and prepares the ES in accordance with the basic content requirements prescribed in the regulation. He may however request the competent authority to give its opinion on the information to be included in the ES, and is encouraged to do so. The competent authority will also consult with relevant statutory bodies before forming its scoping opinion. The Regulations also require statutory authorities to provide the proponent with relevant information that will facilitate the preparation of the ES, if they are asked to do so.
- Once it is completed, the ES is submitted to the competent authority responsible for taking the decision on whether the proposal may proceed. Regulations allow the

competent authority to request additional information from the proponent to support or validate any statement made in the ES, or to provide further information about the effects of the proposed development on the environment.

- All proposals must be publicly advertised and made available for public comment. The procedures also ensure that the ES or relevant parts of it are copied to bodies with responsibility for the environment (e.g., the Environment Agency).
- A minimum period, normally 21 days, is allowed for consultation. No decision can be made within during that period. Any representations made on the ES by the public or any other group must be taken into consideration before any decision is made. Although there is no requirement to do so, developers are encouraged to involve the public and/or stakeholders in earlier stages of the process.
- The competent authority makes its decision on whether or not the project can proceed on the basis of all planning information including the ES, and issues the requisite approvals. For projects within the town and country planning system, throughout the EA process, the Secretary of State for the Environment has the power to issue a direction at any time on whether an ES is necessary for a particular project and has the authority to 'call-in' an ES in order to conduct a public inquiry. In such cases, the competent authority loses its decision-making jurisdiction over the case.

4.1.7 United States of America

In 1969, the United States Congress passed the National Environmental Policy Act (NEPA) which was one of the first "modern" environmental statutes in the world. NEPA sets forth a national policy that applies to all federal agencies, requiring them to consider environmental impacts before undertaking major actions. NEPA also established the President's Council on Environmental Quality (CEQ) which has the mandate to oversee that federal authorities comply with NEPA. A 1977 Executive Order empowered CEQ to issue regulations to federal agencies for the implementation of the procedural provisions of NEPA, including those governing the preparation of Environmental Impact Statements required by the Act. The CEQ regulations require that a variety of environmental documents be prepared as part of the project planning and development process, including:

- Notice of Intent;
- Environmental Assessment (EA);
- Draft and Final Environmental Impact Statements (EIS);
- Finding of No Significant Impact (FONSI); and,
- Record of Decision.

Not all of these documents are prepared as part of the each EA process. For instance an EA may be processed as a FONSI without the preparation of an Environmental Impact Statement.

The EA is a planning device which has become a key link in the application of NEPA. The EA addressees need, alternatives, the project, the environment, and the project's environmental impacts and mitigating measures. Cumulative effects also need to be considered. An EA document is intended to contain sufficient data to determine whether or not a project requires an EIS. An EIS would be required in circumstances where an action has potentially significant environment impacts and to facilitate the preparation of an EIS should one be needed.

Under the CEQ regulation, duplication with state and local EA procedures is to be eliminated by joint public hearings, joint preparation of environmental assessment, and the adoption of all or relevant parts of their environmental assessment for federal assessments. An EIS is required only for proposed federal actions that are major and would significantly affect the environment. An EIS is to be analytic document. The lead agency is to focus on significant environmental issues, all reasonable alternatives (including the no action alternative) that are consistent with its authority and reduce paperwork and the accumulation of extraneous background data. In addition to the project-specific EIS a federal agency must do a programmatic EIS prior to a decision on a major program or plan with significant environmental impacts. Such a programmatic EIS can be based on an area wide analysis of several projects or take the form of a strategic environmental assessment. EA Officials indicated that the trend in the United States is to do fewer EISs and more EAs.

Throughout the NEPA process, the lead agency must consult state and local government agencies, and Indian tribes and the public. A co-operating agency is any other federal agency with a jurisdictional responsibility by-law or special expertise. A state or local agency, or an Indian tribe may become a co-operating agency. When there is more than one federal agency involved, a lead agency is to prepare or supervise the preparation of an EIS. Should agencies be unable to decide among themselves which is the lead agency, the CEQ would decide.

The key features of the EA process are summarized below:

- As early as possible in planning, the lead agency should apply NEPA. First, it should decide whether its proposal is on its exclusion list or requires an EIS. If it not certain, the lead agency does an EA. The EA is reviewed by co-operating agencies, and if required, the potentially affected publics are consulted.
- When the responsible official finds the are no significant impacts or the project is modified to eliminate them, the official issues and make public a Finding of No Significant Impacts (FONSI). Although both the EA and the FONSI are public documents, they are not filed in a central location.
- When an EIS is needed, the lead agency places a Notice of Intent in the Federal Register, and begins the scoping process. It invites comments from federal, state and local agencies, any affected Indian tribe and other interested parties to assist in identifying significant issues for in depth assessments in depth in the EIS, locates related or similar assessments and meets the public when and if necessary.

- When it has completed the draft EIS, the lead agency distributes the document for review to participants in the scoping exercise and files it with the Office of Federal Activities in the Environmental Protection Agency (EPA). The EPA publishes in the Federal Register each week a list of EISs is has received. The draft EIS must be circulated for at least 45 days for public comment and review.
- After it has received comments from interested parties, the lead agency uses relevant input to revise the final EIS, or explain why the comments do not warrant further agency response. All comments must accompany the final EIS.
- The final EIS is circulated again. A copy is also filed with the EPA which again includes it in its weekly list in the Federal Register of received EIS.
- When a co-operating agency has a major disagreement with the lead agency's EIS that involves a potentially important adverse environmental effects, the two try first to reach an informal agreement. If this fails, the lead agency may refer its comments to the CEQ. If CEQ accepts the referral, it has several options. Generally it publishes ifs findings and recommendations on the issue and parties accept its conclusion. In an extraordinary case involving a matter of national importance, CEQ does have the power to submit the referral to the President for his action.
- After the final decision is taken, the responsible official must sign a Record of Decision (ROD) which is a concise public rationale for the section of preferred alternative, a description of mitigation measures which make the selected alternative environmentally acceptable and any applicable enforcement or monitoring programs.

4.2 Comparison of National EA Regimes by Critical EA Element

The following sections summarize the key areas of *convergence and divergence* of the various national EA regimes with the Canadian (i.e., national) EA regime according to the 15 critical elements of the evaluation framework. As mentioned previously, for each of these critical elements a *hypothesis* is put forward regarding how this element might influence national competitiveness. In most cases, the hypothesis was based on the principles of clarity, simplicity and certainty as being the major determinants of competitiveness. These principles came from our prior experience and our review of the results of the Canadian Environmental Assessment Agency's Ongoing Monitoring Program (OMP). Although no research has been completed to confirm whether or not, nor the degree to which these elements may influence national competitiveness, they were used as indicators on which to base the comparison of EA regimes from a 'competitiveness' perspective. To this end, the reader is cautioned that not all the elements identified below may have an influence on competitiveness, and that others or additional one may be more appropriate.

Because this research identifies key areas of convergence and divergence (i.e., those broad areas where differences among EA regimes exist) in order to consider their potential implications on competitiveness, this study does not adequately account for the fact that each country has developed its own EA regime within its own national political and judicial system. It is acknowledged that each EA regime has its own unique qualities, custom features and deviations, its own set of advantages and disadvantages. Readers are therefore reminded that this study considered each EA element in isolation without a broader consideration of the context within which the EA regime has been developed. Therefore, this research is preliminary and directional only, identifying broad areas where differences among EA regimes exist.

Nevertheless, for each element, three categories have been defined which are intended to capture the full range of characteristics of the various EA regimes. Where possible, the categories were defined to consider as many of the sub-elements as possible. In some cases however, a separate evaluation for a sub-element was necessary. The three categories for each EA element are arranged in a table in such a way that the competitiveness of the EA regime for investment could be expected to increase in moving to the right of the table.

Each country has been classified into one of the three categories which best fits its characteristics. For some elements, this simply involved the determination of the 'presence or absence' of a particular EA process element in either the Canadian or international EA regime; in other cases it involves determining the 'extent to which' the EA process element is applied in practice. A country that was placed in the right hand side of a summary table is hypothesized to be more competitive for investment than a country placed at the left, for the particular EA element being considered. However, it should be noted that in practice, a continuum exists and that each EA regime has its own unique qualities, custom features and deviations from these general categories. Therefore, these categories are intended to be generalized and as generic as possible to facilitate the comparison process.

4.2.1 Strategic Purpose

By "strategic purpose" we refer to where the EA regime fits in a spectrum ranging from, at one extreme, a more narrow focus on project-specific and environmental information to facilitate Government agency decisions to, at the other extreme, the attempt to achieve sustainable development principles through the EA process (via improved project definition, environmental planning and management). The more narrow focus of an EA regime on the reporting of environmental impact information through an Environmental Impact Statement, for example, is hypothesized to increase competitiveness for investment because the project approval it based not only on the EA, but on a full range of other technical, social and political matters that are considered simultaneously. This approach is thought to avoid the necessity to justify the project strictly on the basis of its environmental effects, prior to the consideration of other issues related to sustainable development.

The strategic purposes of EA regimes vary considerably, but have a profound effect on the manner in which an EA process is undertaken in practice (i.e., its level of stringency, procedural certainty or clarity, and predictability of outcome). The stated purpose of the Canadian Environmental Assessment Act is:

1. To ensure that the environmental effects of projects receive careful consideration before RAs take action.
2. To encourage Responsible Authorities to take actions that promote sustainable development, thereby achieving or maintaining a healthy environment and a healthy economy.
3. To ensure that projects to be carried out in Canada or on federal lands do not cause significant adverse environmental effects outside the jurisdictions in which the projects are carried out.
4. To ensure that there be an opportunity for public participation in the EA process.
5. To ensure that Responsible Authorities carry out their responsibilities in a co-ordinated manner with a view to eliminating unnecessary duplication in the environmental assessment process.

This purpose is most closely aligned to the purpose of the National Environmental Policy Act in the United States, the EPBC in Australia, and General Environmental Law in Chile; all three of which are aimed at achieving goals of sustainable development through improved project planning and management and the careful consideration of environmental effects.

Among these three countries, the strategic purpose of the NEPA in the United States implies the greatest breadth. The NEPA aspires more towards achieving a high standard of living for all Americans through the beneficial use of the environment recognizing the need for environmental protection, preservation and enhancement than on improving federal decision-making. As such, the NEPA requires the consideration of a broad range of effects on the biophysical and socio-economic components of the environment, the effects of alternative actions (including the null alternative) and cumulative effects. Canada's and Australia's strategic purposes imply a lesser degree of stringency than that in the United States, focussing more on matters of national environmental significance, federal decision-making and environmental protection. It is noteworthy however, that both EA legislation in Canada and Australia explicitly promote the role of public participation in decision-making which tends to encourages a public debate on sustainability issues within the EA process.

The stated strategic purposes of the CEAA, NEPA and the EPBC stand in contrast with the EA regimes in Germany, France and the United Kingdom. Although many of these EA regimes also require the consideration of a broad range of effects, alternatives and follow-up (in certain cases), their EA regimes are largely geared toward ensuring that fundamental environmental information is available to decision-makers prior to granting project approvals rather than on broader planning and environmental

management objectives. To this end, the EA process is not the primary forum for making trade-offs or the consideration of environmental sustainability. As mentioned above, this approach is thought to avoid the necessity to justify the project strictly on the basis of its environmental effects, prior to the consideration of other issues related to sustainable development.

Table 3 classifies each country's EA regime according to one of three categories which best describes its overall 'strategic purpose'.

Table 3. Comparison of the Strategic Purposes of International EA Regimes

Focus on government decision-making and achieving principles of sustainable development through improved project planning and management.	Focus on government decision-making and ensuring environmental protection through improved project planning and management.	Focus on government decision-making by ensuring fundamental project and environmental information is available to decision-makers.
• Canada • Australia • United States • Chile	• Japan	• Germany • France • United Kingdom

4.2.2 Type of EA Process

The type of EA process that is defined in legislation determines the relative ease or degree of difficulty a proponent may encounter in gaining project approval; and to a large degree the level of stringency of the EA process itself. The degree of ease and/or difficulty in compliance with EA procedures is determined in part by the level of discretion afforded to decision-makers and the presence or absence of opportunities to screening a project from more rigorous assessment or EA tracks; or to narrow the 'scope' of an assessment to the most critical issues or those most relevant to project approvals/permitting. As such, the more competitive EA regimes were hypothesized to be the ones that offered the greatest flexibility to proponents and the most opportunities to undertake EAs in a manner other than on a project-specific basis or allow for a lower level of assessment to be undertaken for a particular project.

It should be noted that the use of the term 'screening' varies from country to country. In Canada, screening refers both the level of assessment (i.e., a screening or class screening report) and the process of checking whether an EA is required and if so, which level of assessment is required (i.e., screening or comprehensive study). In the European Union countries, screening involves checking whether the project is listed on the mandatory EA listing or whether it is listed on a separate schedule where an EA might be required under certain circumstances.

Without a more full understanding of the national context within which the EA regime exists, it is not possible to comprehensively evaluate the application of other EA regimes with the same level of insight as is possible for the Canadian EA regime. It is however possible to categorize the EA regimes in terms of the degree of flexibility they offer to project proponents in determining if an EA is necessary, the level of assessment that is necessary, and opportunities to undertake EAs in a manner other than on a project specific basis.

Under the CEAA, there are four levels of environmental assessment or EA tracks possible: a) screening assessments (including class screenings), b) comprehensive studies, c) panel reviews and d) mediations. These EA tracks were developed with the intention of permitting a more rigorous assessment of projects which are more likely to cause significant adverse effects. To this end, Canada's national EA regime stands is broadly similar to Australia, Chile and the United States where multiple EA tracks are available, and there are opportunities or mechanisms in place to "screen" a project out of a more rigorous assessment or EA track to a more prescribed EA or approvals track with potentially less rigorous requirements. For example:

- In Chile the EA process is based on two EA tracks and a screening process for projects triggering the Act. In Chile an Environmental Impact Statement (*Declaración de Impacto Ambiental")* is applicable to projects deemed to have no significant environmental impacts based on the application of a set of legislated criteria; otherwise an Environmental Impact Study (*Estudio de Impacto Ambiental*) is required.
- In the United States, there are essentially two types of EA processes/tracks available under NEPA. An Environmental Assessment (roughly comparable to a screening level assessment in Canada) is a document used by a federal authority to make a decision as to whether and EIS (roughly comparable to a Canadian Comprehensive Study or Panel Review) is required or whether the EA can be processed as a finding of no significant impact (FONSI). Such 'screening' decisions are based the amount of evidence and analysis provided by the project proponent in the EA document. In addition, the Act allows for environmental assessments of multiple projects or area wide assessments.
- In Australia, there are six types of EA processes/tracks available under the EPBC Act. 'Screening' decisions regarding the appropriate level or type of environmental assessment that is warranted are based on preliminary information submitted by the proponent (i.e., the amount of evidence and analysis provided by the project proponent) along with statutory guidelines that address issues of complexity, availability of information, public concern, and cost/benefits of the available approaches. In addition, the Act allows for 'strategic assessments" on a voluntary basis which are intended for the assessment of multiple actions that may be carried out under a policy, plan or program.

Under the Canadian Environmental Assessment Act, A project either undergoes a screening or a comprehensive study each of which can ultimately result in a more rigorous level of assessment through a referral to a Panel Review at any time in the EA process. At present, there are no formal opportunities in the Act for strategic or area-wide assessments. However, predefined 'triggers' and the Inclusion List Regulations under CEAA allows project proponents to consider what might trigger a federal EA early in its project definition stage and promotes project planning and design that avoids significant adverse environmental effects . As a consequence, this offers the possibly to avoid a Panel Review and possibly federal involvement in the project altogether. In certain cases, this also allows proponents to plan or design their project in a manner that would avoid the application of CEAA from the outset, rather than being caught by the EA process and then having to justify a lower level of assessment. Finally, decisions on EA types or tracks tend to be firm in Canada, Chile, Australia and the United States, with discretion afforded to federal authorities to require a more rigorous level of assessment only in exceptional circumstances.

All EA regimes examined in the study, including Canada's, offer either formal or informal mechanisms to limit the scope of the assessment, although each may vary in the degree to which 'scoping' is achieved in practice.

The EA regimes in Japan and the United Kingdom are largely based on a single EA track, however provisions exist which allow for the scoping of the EA report to the most critical issues or concern to the competent federal authority. In the UK for instance, 'scoping' requirements are identified as per European Commission directives. In both cases, the "scoping" of the assessment is done by the proponent, in consultation with the competent authority. This mechanism affords the proponent with an opportunity to demonstrate to a federal authority that a more rigorous assessment is not required.

The Canadian Environmental Assessment Act provides for multiple EA tracks, the scope of the project, the assessment and the scope of the factors to be considered is at the a discretion of the Responsible Authority or Minister of Environment. Although the Act has been structured to allow for discretion on the part of Responsible Authorities in scoping an EA to the most critical issues, the Canadian Environmental Assessment Agency has acknowledged that the process of "scoping" has emerged as one of the most pressing methodological challenges under the Act. In Canada, some of these challenges are a result of inter-jurisdictional issues, while others relate to the ability of Responsible Authorities to narrow the scope of an EA given recent court decisions, their level of training and experience with the technical issues associated with a particular development.

In contrast to most other EA regimes, the CEAA offers project proponents with an opportunity to develop model class screening reports, which effectively 'scope' a project's environmental assessment to the most critical environmental or technical issues, thereby resulting in a potentially lower level of assessment where justified. Discussions with Canadian EA Officials suggests that the use of class screenings is increasing and may prove to play a more important role in the federal EA process than in the recent past.

Interviews with other EA Officials indicates that other countries are experiencing similar challenges with respect to scoping. Overall, Germany, France and the United Kingdom are seen to offer only limited opportunities for scoping of projects.

Table 4 classifies each country's EA regime according to one of three categories which best describes its overall type of EA process.

Table 4. Comparison of the EA Process Types

EA process provides for single or multiple EA tracks with no or limited opportunities to: • **"screen" projects from the application of EA or a more rigorous EA process.**	**EA process provides for single or multiple EA tracks and opportunities to "screen" projects from EA or the application of a more rigorous EA process,**	**EA process provides for single or multiple EA tracks, coupled with:** • **opportunities to "screen" projects from the application of EA; or a more rigorous EA process** • **and/or** • **and apply non-project assessments (e.g., SEIA, Regional Studies).**
• Germany • France • United Kingdom	• Japan	• Canada • Australia • Chile • United States

4.2.3 Types of Projects Covered

EA regimes differ in ways they identify the projects subject to EA and its application to extra-jurisdictional projects (i.e., projects undertaken outside of National boundaries). All EA regimes apply to public and private sector projects. We hypothesized that competitiveness would increase as the types of projects subject to the national EA regime were identified more specifically or more clearly through triggers identified in legislation. For example: A broad "trigger" approach with discretion afforded to federal authorities in the application of EA would tend to score lower on competitiveness than an approach of listing a narrow range of project types.

Under the Canadian Environmental Assessment Act, there are essentially four 'triggers'. The Act applies or is 'triggered' for either a federal government or private sector proposal (domestic or extra-jurisdictional) if it is a project that involves a federal authority as proponent, federal funds or other form of financial assistance, an interest in land or requires a federal authority to exercise a regulatory duty in relation to the project. Other provisions in the Act allow for the Minister of Environment to trigger the

Act in exceptional circumstances if there is evidence that the project will likely result in significant adverse trans-boundary effects or public concerns. These triggers and provisions under the Act essentially define the areas of National importance or interest.

The primary triggers for Canadian Environmental Assessment Act are virtually identical to those of the United States' National Environmental Policy Act. NEPA also applies to major federal action and private sector projects which involve federal financing, assistance, or project approval. Under NEPA however, major federal actions also include the adoption of most official policies, formal plans, or programs, as well as the approval of specific projects. Although the Canadian Environmental Assessment Act is not triggered, there is a Cabinet Directive (1999) regarding the consideration of environmental effects of federal government policy, plans and program proposals. Both the Canadian and United States' EA regimes are similar in that they require environmental assessment under their respective legislation for extra-jurisdictional projects. While all provisions of NEPA apply to extra-jurisdictional projects outside the United States, Canada's EA regime requires a screening level assessment for these projects under the Projects Outside of Canada Regulations, with provisions for a referral to a Panel or mediation, if warranted.

The manner in which the types of projects covered are determined in Germany, France and the United Kingdom is substantially different, in that the EA legislation applies to a prescribed listing of project types which are clearly defined in EA legislation or regulations. In Chile and Japan such listings are, in certain cases, coupled with a federal funding and/or regulatory trigger defined by a variety of specialist laws. In each case, the listing of project types is broad ranging, covering major developments in virtually all sectors including specific project types unique to a particular country. In each of these countries, the EA legislation is intended to apply only to domestic projects. Most countries however have other legislation that require some form of 'environmental assessment' or 'environmental consideration' for extra-jurisdictional projects involving federal government funding such as soft loans or development assistance.

The scope of coverage in Australia is unique among the countries examined, in that the application of the Environmental Protection and Biodiversity Act is based on the likelihood of significant effects occurring on areas of National importance or interest. The scope of coverage is broad, in that any 'action' (i.e., project or activity) has the potential to 'trigger' the Act, however the scope of coverage is restricted to only those 'actions' (whether domestic or extra-jurisdictional projects) involving:

- World heritage properties;
- Ramsar wetlands;
- Nationally threatened species and ecological communities;
- Migratory species;
- Commonwealth marine areas; and,
- Nuclear materials (including uranium mining).

To this end, all national EA regimes focus on their own areas of National importance or interest as determined by their own political context. Whether these areas of National importance or interest are defined by legislated triggers, prescribed lists or otherwise, does not necessary mean that their scope of coverage is greater or narrower. Therefore, firm conclusions cannot be made with respect to which one would cover the greatest range of project types. Because the data obtained as part of this study does not allow for such a determination to be made Table 5 classifies each country's EA regime into the same category, recognizing that each is different in the manner in which EA is applied.

Table 5. Comparison of Types of Projects Covered

No 'triggers' defined in legislation. EA is applied at the discretion of federal authorities (domestic and extra-jurisdictional projects).	Scope of coverage is based on 'triggers' defined in legislation Or on the basis of significant effects on areas of national importance or interest (domestic and extra-jurisdictional projects). Or Scope of coverage is based on specific project types defined in legislation (domestic and extra-jurisdictional projects).	Scope of coverage is based on a narrow range of 'triggers' or a narrow range of project types defined in legislation.
	• Canada • United States • Australia • Chile • Germany • France • Japan • United Kingdom	

4.2.4 Scale of Projects Subject to EA

Generally, EA can be applied to both large scale and small scale projects. EA regimes which are focussed on ensuring that large scale projects and those that are likely to cause public concern undergo EA, typically have well defined thresholds. These thresholds are most often enshrined in legislation or regulation and are based on location, facility size, capacity or nature of the product/facility (e.g., uranium mining). We hypothesized that competitiveness increased as EA regimes moved towards a focus on large-scale projects, and as the EA regime exhibited formal opportunities for proponents to exclude medium to large scale projects from the application of EA.

As discussed previously, the scope of coverage under CEAA is largely determined by the definition of project under the Act, its 'four triggers' as discussed above, and the Inclusion List Regulations which cast the net broadly to capture small and large scale projects, including those that are likely to cause public concern. The Act is intended to excluded very small scale, routine projects through the Exclusion List Regulations. These regulations are based on project thresholds, and situational descriptions (e.g., 30 m from a watercourse) where there is greater certainty that such projects will have no significant adverse environmental effects. The Exclusion List Regulations is essentially the only formal mechanism under the Canadian EA regime that assist in excluding a project from further application of the Act.

This approach is in sharp contrast to the European Union countries (i.e., France, Germany, and United Kingdom) examined in this study and the EA regime in Japan. In these cases the level of project coverage is determined either through the application of

- size/capacity thresholds and the designation of projects by type (e.g., nuclear projects, hazardous waste disposal projects); and/or
- a screening process to determine whether or not an EA is required or what type of EA is warranted.

The use of thresholds and project lists by these EA regimes aim to define those projects, particularly the large scale or publicly controversial projects, that are included in the EA process and will require an EA. In contrast, the thresholds defined by Canada's Exclusion List Regulations define the very small scale projects that do not warrant an EA and can be excluded from the application of the Act. The project lists and thresholds used by European Union counties and Japan are generally similar to those projects and thresholds identified in Canada's Comprehensive Study List Regulations. However, the purpose of the Comprehensive Study List is to determine the level of assessment required, rather than the type of project subject to EA. Therefore, the EA regimes of the European Union and Japan more clearly define the *upper end* of the scale. As a consequence, for many project types, the medium to larger scale projects are subject to EA, and the smaller scale projects are less likely to undergo an EA. In the UK and Germany for example, smaller scale projects do not tend to undergo EA, but are approved through other land use planning approval mechanisms at a more local level.

For projects or classes of projects that do not meet these *upper end* thresholds many the EA regimes of the European Union and Japan either define a second project list based on another set of thresholds with lower limits (e.g., in Japan the lower limit threshold is set at approximately 75% of the upper limit threshold) and/or apply (or are planning to apply) a "screening" process to determine whether or not an EA is required.

Although guidelines, circulars or ordinances are typically available to assist in making a 'screening' decision, the results of this screening process are not certain or predictable because considerable discretion is afforded to the competent authority in making a decision. Interviews with EA Officials

indicate that the results of a screening process largely depend upon the quality of information provided by a proponent, the knowledge and experience of the decision-makers within each competent authority, and other factors (e.g., politics, public concerns, etc.) which may also influence the screening process on occasion.

The lower limit thresholds used in the European Union and Japan do not equate to those established under Canada's Exclusion List Regulations which define only the very small scale projects. As a consequence, the CEAA tends to captures a broader range of small, medium and large scale projects.

The EA regime in Canada is most akin to that of the United States in that EA legislation potentially applies to both small and large scale projects, and like Canada, no project lists or thresholds are specified in legislation or regulation that would clearly define those larger scale projects for which an EA is mandatory. However, in the United States considerable discretion has been given to individual federal authorities to define projects or classes of projects that are 'categorically excluded' from EA. These exclusions, coupled with the opportunity to avoid a detailed EIS through a Finding of No Significant Impact, essentially limit the application of EA to medium scale or larger scale projects which are most likely to cause significant adverse environmental effects.

The new EA regime in Australia also applies to both small and large scale projects, and like Canada, no project lists or thresholds are specified in legislation or regulation that would clearly define those larger scale projects for which an EA is mandatory. Rather the EA process here, relies entirely on a screening process to determine whether or not a project is likely to cause a significant adverse effect on an area of national importance or significance. The results of this screening process are also not certain or predictable because considerable discretion is afforded to the Commonwealth Minister of Environment in making this decision. Interviews with EA Officials in Australia indicate that the results of a screening process largely depend upon the quality of the preliminary information provided by a proponent, the knowledge and experience of the decision-makers in applying the guidelines for determining significance. To this end, proponents have a greater level of control in determining whether the Act applies or not by virtue of their project designs and the quality of the preliminary information provided. Regardless, greater certainty and predictability in the application of Australia's EPBC Act are anticipated due to its clearly defined focus on areas of national importance or significance.

Nevertheless, it should be noted that in some cases, the opportunities that exist in other countries to exclude projects from EA requirements may be more onerous and time consuming that the screening requirements under CEAA.

Table 6 classifies each country's EA regime according to one of three categories which best describes the types of projects subject to EA.

Table 6. Comparison of Types of Projects Subject to EA

EA potentially applies to both large scale and small scale projects. Thresholds are specified in legislation or regulation that define small projects to be excluded from EA. There are no other opportunities to exclude large or small scale projects from more detailed EA requirements.	EA potentially applies to both large scale and small scale projects. No thresholds are specified in legislation or regulation. Opportunities exist to exclude large or small scale projects from detailed EA requirements.	EA applies to primarily large scale projects. Thresholds are specified in legislation or regulation that define large scale projects or designate types of project that require EA. Opportunities exist to exclude potentially large or small scale projects from more detailed EA requirements through a screening process.
• Canada	• United States • Australia	• Chile • Japan • France • Germany • United Kingdom

4.2.5 Nature of Approvals Received

Ultimately, the purpose of any EA regime is to allow a government authority to make a decision on whether or not a project should proceed, and if so, under what conditions. The Canadian Environmental Assessment Act is founded on the principle of 'self-assessment'. Under this principle, the federal department responsible for making a decision on a project is responsible for conducting an environmental assessment. This is similar to all of the other countries examined in this study.

However, the EA process in Canada does not provide for the approval of the project itself. Approval for a project is ultimately granted through a formal permitting, licensing or other authorization process which is largely separate from the EA process itself. In many cases, most of the environmental permits required for a project to proceed are Provincial permits. In most cases, the environmental assessment and permitting/approval processes proceed in sequence. In the vast majority of projects subject to EA in Canada, the EA report must demonstrate that there are no significant adverse environmental effects before the project can proceed to the final permitting/approval stage. Although, there are opportunities for a determination to be made as to whether or not any adverse environmental effects are justifiable under the circumstances, such discretion is not commonly applied. Given that the development of the Canadian Environmental Assessment Act was influenced by experience under the United States' National Environmental Policy Act, it is not surprising that the two EA regimes share this characteristic.

The nature of approvals in Germany, France and the United Kingdom are very similar in that the EA process is integrated within the land use and/or environmental permitting processes of individual federal

authorities. Although the EA process does not provide for the approval of the project (as is the case in Canada, United States and Australia) a determination on the EA is not made in the absence of other project information relevant to a decision on the project. In Germany, France and the United Kingdom a favourable determination (i.e., that there are no significant adverse environmental effects) is not always a pre-requisite for its ultimate approval. In these cases, the EA process can be characterized as proceeding in parallel or in conjunction with the formal approval processes stipulated in specialist legislation. Interviews with EA Officials have indicated that such parallel or integrated processes are intended to serve to minimize project delays.

Among the international EA regimes investigated, Chile's EA process is the most unique in that the EA process has been designed as the primary mechanism through which project approval is granted. In this case, the EA process provides for project approval through issuance of a legally binding document or "Technical Report" that contain a group of permissions for the different environmental aspects of the project. The "Technical Report" forms the basis for a "Certificate of Approval" issued by either the National or Regional body responsible for the EA process.

Table 7. Comparison of the Nature of Approvals Obtained under International EA Regimes

EA process does not provide for approval of project. Project approval is obtained through permitting process of individual federal authorities, subsequent to the EA process.	EA process does not provide for approval of project. EA process is integrated within the permitting process of individual federal authorities.	EA process provides for a 'one window' approval of project through a formal EA approval (e.g., EA certificate of approval) from single EA agency.
• Canada • Australia • United States	• Germany • France • Japan • United Kingdom	• Chile

4.2.6 Prescribed Steps

The clarity of an EA process depends upon the number of formal decision points and key steps prescribed by legislation or regulations. All of the EA regimes examined in this study are similar to Canada's in terms of the number and types of formal decision points defined by the EA legislation or regulations. Generally, EA regimes contain very few formal decision points, typically, only two or three formal decisions need to be made. These are:

- whether or not an EA is required (all EA regimes);
- the type of EA process/track (only Canada, Australia, Chile, United States); and,
- the final determination on the EA/or project (i.e., go/no go decisions) and the conditions of approval (all EA regimes)

However, EA regimes differ substantially with respect to the number of key steps required to fulfill the requirements of an EA process. To illustrate, there are essentially:

- seven (7) key steps in Chile's EA process which are stated in a general way in the Law of the Environment No 19.300 and detailed in its regulation Decree No. 30.;
- five (5) key steps in France's EA process which are stated Decree 77-1141;
- five (5) key steps in Germany's EA process as defined in the EIA Act;
- thirteen (13) key steps in Japan's EA process as defined in the 1997 EIA Law;
- five (5) key steps in the United Kingdom's EA process as defined in the Town and Country Planning Regulations; and,
- seven (7) key steps in the United States' EA process as defined under NEPA and the CEQ regulations.

Although the number of steps may vary each EA regime essentially covers the same basic activities from the initial determination as to whether or not an EA is required up to the final determination on the EA/or project (i.e., go/no go decisions) and the conditions of approval. This number of steps does not detract from or improve competitiveness.

Therefore, we hypothesized that clarity was a major component of competitiveness and that, therefore, national competitiveness would increase as the national EA regime prescribed the required steps in legislation and/or regulations and clarified them through guidelines, etc. To this end, most of the EA regimes examined in this study, prescribe the steps necessary to complete the EA process within their national EA legislation or regulations. The prescribed steps in these EA regimes are, most often, further clarified in various non-statutory instruments such as guidelines or training manuals/materials.

The Canadian Environmental Assessment Act does not prescribe all of the steps necessary to *complete the EA process* and fulfill the requirements of the Act. In keeping with its principle of 'self assessment', the Act is focused primarily on defining *the powers, duties and functions* of various federal stakeholders within the EA process. Some guidance within a statutory instrument is offered in the Federal Co-ordination Regulations, which define the steps that need to be taken by federal authorities in determining their involvement in the EA process (i.e., as a federal authorities or Responsible Authority). Most of the substantive guidance regarding the steps necessary to complete a screening or comprehensive study by a project proponent are described in non-statutory guidance materials written for responsible authorities, project proponents and citizens. Similarly, the steps in conducting a Panel review are also clearly defined in guidelines.

Table 8 classifies each country's EA regime according to one of three categories which best describes how the key steps in the EA process are prescribed.

Table 8. Comparison of the Prescribed Steps in the EA Process

Steps in the EA process are not prescribed in legislation and/or regulations. Steps in the EA process are described in guidelines and other non-statutory instruments.	Steps in the EA process are partially prescribed in legislation and/or regulations. Steps in the EA process are described in guidelines and other non-statutory instruments.	Steps in the EA process are prescribed in legislation and/or regulations. Steps in the EA process are further clarified in guidelines and other non-statutory instruments.
	• Canada	• Australia • Chile • France • Germany • Japan • United Kingdom • United States

4.2.7 Timelines

Using clarity and certainty of the EA regime as a major component of competitiveness, we hypothesized that national competitiveness would increase as the regime got more specific on the timelines to both start the EA and complete it. In general, EA start-up includes the time for decisions and notifications on whether or not the National EA legislation applies, the review of information provided by the proponents and (in Australia) determinations regarding the scope of the assessment. EA completion timelines refer to those that mandate written reports and/or decisions from the government on EA approval and conditions.

There exists considerable variation among international EA regimes with respect to EA timelines mandated in legislation or regulations. Interviews with EA Officials indicate that mandated timelines have both advantages and disadvantages to government and project proponents. For government agencies responsible for implementing EA legislation, timelines are often seen as a constraint to their ability to adequately review a development proposal and resolve project specific issues or concerns particularly in cases where inadequate information is provided in the EA documentation. Interviews indicated that when inadequate information is provided in an EA, 'deadline extension' clauses might be invoked and the EA referred back to the proponent for additional study and revisions. In such cases, this approach may tend to prolong the EA process rather than streamlining it. From a proponent's perspective, timelines are generally seen as reducing uncertainties and unpredictable scheduling of EA processes. This is particularly the case in Australia's new EA legislation which recently adopted firm timelines for key steps in the EA process.

Canada's EA regime has adopted EA timelines for selected portions of the EA process and for selected EA tracks.

- Timelines for EA start-up are mandated in the Federal Co-ordination Regulations, whereby a Federal Authority is required to make a determination about whether it is

likely to be a Responsible Authority within 10 to 30 days for receipt of a project description from a proponent, a Province or the Canadian Environmental Assessment Agency; and if so, they have a further 10 days to notify other Federal Authorities likely to require EA or posses specialist information. These federal authorities have a maximum of 30 days to state their role in the EA process and a further 10 days is allocated to the Responsible Authority to notify the proponent of these determinations.

- Timelines are also defined for Panel Reviews in a guideline. The mandatory time period for a review, from referral to submission of the panel's report must not exceed 396 days (approximately 13 months) where the panel does not ask the proponent to submit additional information. This overall time period does not include the time required for the proponent to prepare the EIS or the time required to prepare any additional information required by the review panel. In cases where the review panel asks the proponent to submit additional information, the mandatory time period must not exceed 441 days (approximately 14.5 months). Within these constraints, other minimum and maximum timelines have been established:

  - time for the public to review draft guidelines is a minimum of 45 days;
  - time for the public to review the EIS is a minimum of 60 days;
  - notice time for information assessment meetings is a minimum of 45 days;
  - time allocated for a review panel to determine if additional information required following completion of the 60 to 90 day public review of an EIS is a maximum of 30 days; and,
  - notice time for hearings is a minimum of 45 days.

The EA regimes in Australia, France, Japan and the United Kingdom provide the greatest level of certainty with respect to the anticipated duration of the 'front-end' of an EA process. In general, the start-up timelines include decisions and notifications on whether or not the National EA legislation applies, the review of information provided by the proponents and determinations regarding the scope of the assessment (i.e., Australia). EA start-up timelines in Canadian legislation and regulations differ from many of these countries in that they do not include the time allocated to a Federal Authority for determining the scope of the project and assessment; steps which often requires considerable effort on the part of the Federal Authority in understanding the project and associated environmental issues.

The National EA regimes in Germany, United States and Chile on the other hand do not specify any timelines for EA start-up activities. However in these cases, because the EA regime is based on the submission of an Environmental Impact Statement with prescribed content requirements, start-up decisions regarding scope of assessment are were not considered to be "critical path" items in the EA process by the EA Officials interviewed. Nevertheless, some EA Officials (e.g., Germany and United

States) noted that in some cases, the lack of EA start-up timelines resulted in more time being expended in gaining agreement from stakeholders to participate in the EA process to avoid litigation, obtaining clarifications and additional data from the proponent, or gaining agreements among federal authorities involved in the EA process once the EA documentation has been submitted.

In Japan, the requirement for the proponent to develop, consult on and gain approval for a project plan was also seen to be a very time consuming activities at the start of the EA process. However, EA Officials indicated that approval of a proponents project plan or EA Terms of Reference facilitated the time necessary to complete the EA prior to it submission for review. To this end, none of the EA regimes examined in this study had developed timelines within which an EA should be completed by a proponent. Interviews with EA Officials indicated that proponents often take varying lengths of time to complete their EAs.

Table 9 classifies each country's EA regime according to one of three categories which best describes its provisions regarding EA start-up timelines.

Table 9. Comparison of the Timelines for EA Start-Up

EA legislation or regulations do not specify any timelines for EA start-up.	EA legislation or regulations specify timelines for EA start-up on selected EA tracks.	EA legislation or regulations specify timelines for EA start-up for all EA tracks.
• Germany • Japan • United States	• Canada	• Australia • Chile • France • United Kingdom

EA completion timelines in Australia, Chile, France and the United Kingdom are set for all EA tracks and mandate written reports and/or decisions from the government on EA approval and conditions. Simplicity and clarity characterize the provisions contained in the National EA legislation regarding these timelines. EA completion timelines can vary from approximately one month (e.g., Australia) to periods up to six months (e.g., Chile, France). Planning Authorities in the United Kingdom are required to determine planning applications within 16 weeks of receipt, unless the developer agrees to an extension.

In Canada, no timelines have been established for the completion of screenings or comprehensive studies. EA completion timelines are only set for Panel Reviews and for those activities under Panel control. Timelines for Panels may extend up to 14.5 months. To this end, Australia's EA regime includes a similar EA track to the Canadian Panel Review (i.e., a Public Inquiry) however no mandated timelines are set for this EA track as is the case in Canada. Rather the Australian EA legislation indicates that an Inquiry's timelines must be set in its Terms of Reference. There is no current experience with Public Inquiries under the new EA legislation in Australia to indicate the typical duration of such Inquiries.

EA regimes in Germany and the United States do not specify any timelines for the completion of an EA process. Although National EA legislation in Japan does not specify EA completion timelines, it does contain provisions for such timelines to be established by ordinances of Prefectural Governments which play a central role in decision-making on federal EAs. For example, the Osaka Prefectural Government has established a one month time limit for completing its official consideration of the EIS.

Table 10 classifies each country's EA regime according to one of three categories which best describes its provisions regarding EA completion timelines.

Table 10. Comparison of the Timelines for EA Completion

EA legislation or regulations do not specify any timelines for EA completion.	EA legislation or regulations specify timelines for EA completion on selected EA tracks.	EA legislation or regulations specify timelines for EA completion for all EA tracks.
• Germany • Japan • United States	• Canada	• Australia • Chile • France • United Kingdom

4.2.8 Roles and Responsibilities

Clarity in the roles and responsibilities of all federal authorities involved in an EA process is essential. However, in the absence of co-ordination procedures at all stages of the EA among various federal authorities and other stakeholders, the clarity of the EA process is diminished and its efficiency and effectiveness can be lost. To improve the clarity of process various countries have defined roles, responsibilities and co-ordination procedures either in legislation, regulations, guidelines and other non-statutory instruments. In some instances, institutional mechanisms, such a co-ordinating committees, agencies or other bodies have been established to ensure that the EA process proceeds as efficiently and effectively as possible.

Therefore, we hypothesized that competitiveness would increase as national EA regimes specified the required government co-ordination processes, either within legislation or regulation, and had established institutional mechanisms for co-ordinating the EA processes. Countries with a shared approach to environmental and resource management start out at a disadvantage as they have a need to clarify roles and responsibilities to a greater extent than others since they usually require co-ordination between the national EA regime and the sub-national EA regimes to fulfill their respective responsibilities. Unitary states and those with clearer divisions of powers do not require such co-ordination. For example, in Canada there are 26 federal departmental Responsible Authorities, ten Provinces and three territories with

a potential role in project approvals. In Japan, there are 59 prefectural governments and designated large cities with environmental assessment duties or functions. In Australia there are eight state and territorial governments with their own EA processes and project approval requirements. Unitary states do not require such co-ordination.

In Canada, the Canadian Environmental Assessment Act defines the powers, duties and functions of federal authorities and other stakeholders in an EA process, but does not prescribe any co-ordination procedures for implementing the EA. The Federal Co-ordination Regulations, on the other hand, offer federal authorities guidance regarding the steps that need to be taken in determining their involvement in the EA process (i.e., as a federal authority or Responsible Authority).

For Comprehensive Studies and Panel Reviews the Act establishes the Canadian Environmental Assessment Agency which administers the EA review process. The steps in conducting a Panel review and the steps for completing screenings and Comprehensive Studies are outlined in non-statutory guidance materials written for responsible authorities, project proponents and citizens. No other formal guidance for the co-ordination of the EA process is available. Nevertheless, more informal mechanism such as project-specific co-ordinating committees, regional EA committees of federal authorities (some with provincial membership) have been developed.

A similar approach to the definition of roles and responsibilities has been taken in Australia and the United Kingdom, where the co-ordination procedures are largely described in guidelines or other non-statutory instruments, coupled with more informal mechanisms. For example,

- The United Kingdom's Town and Country Planning Regulations define the mandate and overall framework for the EA process. Details concerning the roles of various stakeholders in the EA process, the detailed steps, and responsibilities for co-ordinating the EA process are provided in "Circulars" which are intended to be guides and not authoritative statements of law.
- Australia's Environmental Protection and Biodiversity Act defines the framework of the EA process and describes the powers, duties and functions of various federal and other stakeholders in the process. No other co-ordination procedures are defined in the law. Because one of the most critical elements of EPBC is the concept of accreditation of State EA regimes, co-ordination procedures are to be defined at a later date, on the basis of any finalized bilateral agreements. Other co-ordination procedures are to be defined in non-statutory guidelines.

These approaches are in contrast to most of the other EA regimes examined in this study which have opted to prescribe co-ordination procedures within their respective EA legislation or regulations. Part of the reason for such prescriptive legislation is that the EA regimes in Chile, France, Germany and Japan have opted for a more impact statement approach to EA, rather than an environmental planning and

management approach. Consequently, their legislation are oriented more towards what is required from a project proponent to ensure that federal authorities can fulfill their administrative responsibilities more effectively. The EA regime in Chile takes one step further by establishing agencies at the national and regional levels with the responsibility for co-ordinating the EA process for all EA tracks.

Table 11. Comparison of the Approach to Defining Co-ordination Procedures

Co-ordination procedures prescribed in legislation and/or regulations are limited. **Few Co-ordination procedures are described in guidelines or other non-statutory instruments.** **No institutional mechanisms or organizations exist for co-ordination of EA processes.**	**Co-ordination procedures prescribed in legislation and/or regulations are limited.** **Institutional mechanisms or organizations exist for co-ordination of EA processes on selected EA tracks or projects.** **Procedures are largely described in guidelines or other non-statutory instruments.**	**Extensive co-ordination procedures for the EA process, including co-ordination among federal authorities, are prescribed in EA legislation and/or regulations.** **Institutional mechanisms or organizations exist for the co-ordination of the EA process for all EA tracks or projects (where applicable).**
	• Canada • Australia • United Kingdom	• Chile • France • Germany • United States • Japan

Interviews with EA Officials indicate that all of the countries examined in this study have recognized the need for harmonization and co-ordination among internal jurisdictions, but have achieved this in a variety of ways and to various extents. For example:

- The EA regimes in Chile, France, and the United Kingdom, by virtue of their national political structure or nature of their EA regimes do not have multiple jurisdictions which require EA harmonization or co-ordination. Chile is a federal state with only one EA regime applicable to all areas or regions in the country. France has one national EA regime which is implemented at the local level, thereby avoiding issues of duplication and the need for harmonization. Similarly, the United Kingdom has special regulations for Scotland, Northern Ireland and Wales which fall under the Town and Country Planning Act.
- The National EA regimes in Japan and Germany have been structured in a way that clearly divides powers and duties between State and National governments on project approvals, and have required that federal EA requirements be integrated within State government EA processes.

Of the countries examined, only Canada, Australia and the United States have EA regimes at multiple jurisdictional levels which require harmonization through legislation and institutional bi-lateral arrangements. These countries have attempted to achieve harmonization in various ways and have had mixed success. Interviews with EA Officials also indicate that despite these efforts there remains duplication in environmental assessment requirements and other areas of federal/provincial/state jurisdiction.

In Canada, because the federal and provincial governments share responsibility for environmental management, including environmental assessment; the federal EA regime strives for harmonization with other in-country jurisdictions through the Canada-wide Accord on Environmental Harmonization, and sub-agreements with individual provinces, territories, and/or First Nations regarding environmental assessment. These establishment of these agreements is facilitated by provisions in CEAA. To date, bilateral agreements have been signed with only a few jurisdictions. In addition, the Department of Fisheries and Oceans have established bilateral agreements or memoranda of understanding with most of their provincial counterparts for the purpose of harmonization on Fisheries Act issues.

In the United States, most States have their own environmental assessment legislation and procedures. Some of these EA processes are virtually identical to those stipulated in the NEPA and CEQ Regulations. The federal EA regime strives for harmonization with other in-country jurisdictions through provisions in the NEPA and other non-statutory agreements. For example, the NEPA and CEQ Regulation make it possible for any federal, state or local agency to be a 'joint lead' agency for the review of the EIS provided that at least one federal agency is involved. Other statutory provisions encourage State and local agencies to co-operate through joint research and studies, planning activities and public hearings through the preparation of joint EISs that satisfy the multi-jurisdictional requirements. Finally, EA officials indicated that many federal authorities have also established Memoranda of Understanding (MOU) between themselves and their State and local counterparts to improve co-ordination and harmonization. For example, the federal Bureau of Land Management has MOUs with several states, districts and counties for EA and permitting issues concerning mining.

In Australia, harmonization of EA processes is being achieved through a combination of statutory and non-statutory arrangements. Australia has an "Intergovernmental Agreement on the Environment" between the Commonwealth and all State/Territorial governments and has established draft bilateral agreements in accordance with its new EA Act. These agreements are the mechanisms used to facilitate a co-operative national approach to the environment and better definition of roles and responsibilities. Draft bilateral agreements exist with all eight jurisdictions. Although none are currently active, such agreements are intended to provide accreditation of a State EA or environmental management system, which allows the Commonwealth to delegate to the States the responsibility for conducting EA under the Act and, in limited circumstances, the responsibility for granting approval under the Act. However, if an action is assessed under the accredited State Process, the action still requires approval from the Environment Minister under the Act. Interviews with EA Officials and other research suggests that

significant differences exists between the National and State/Territorial EA processes, and that some State governments have indicated no desire to have their EA formally process accredited under the Commonwealth EA regime.

Table 12 classifies each country's EA regime according to one of three categories which best describes its approach to inter-jurisdictional EA harmonization and co-ordination.

Table 12. Comparison of Approaches to Inter-jurisdictional EA Harmonization and Co-ordination

Several other EA regimes exist within the Country. Harmonization among internal jurisdictions is intended to be achieved through statutory or non-statutory institutional arrangements.	**Several other EA regimes exist within the Country. Harmonization among internal jurisdictions has been largely achieved through incorporation of federal requirements.**	**No other EA regimes exist within the country other than the national EA regime.**
• Canada • Australia • United States	• Japan • Germany	• Chile • France • United Kingdom

In Canada, the Projects Outside of Canada Regulations govern extra-jurisdictional projects. These projects require a screening level assessment, with provisions for a referral to a Panel review, mediation or Advisory Committee. In the United States, no special provisions have been made for extra-jurisdictional projects.

As discussed previously, the scope of coverage in Chile, Germany, France, the United Kingdom and Japan is intended to apply only to domestic projects. Most of these countries however have other non-EA legislation or non-statutory instruments that require or encourage *some form* of 'environmental assessment' or 'environmental consideration' for extra-jurisdictional projects involving federal government funding such as soft loans or development assistance. Australia is unique in that that Act would apply to projects outside of Australia to the extent that the project affects an area of national significance, and advice (rather than approval) from the Minister of Environment is required prior to making Commonwealth decisions regarding contracts, agreements or arrangements for a foreign aid project which are likely to have a significant effect on the environment of another country.

With respect to projects with trans-boundary implications, with the exception of Australia, Chile and Japan, all of the other countries examined in this study have recognized the need to address transboundary issues in the application of EA. As such their EA regimes have incorporated a range of institutional arrangements for the co-ordination or harmonization of EA processes. In most cases, such institutional

arrangements are bilateral or multilateral agreements to inform other jurisdictions on projects that may affect them. In other cases, specific provisions for co-ordination of EA with trans-border implications have been incorporated into the National EA legislation (e.g., Germany, Canada). For example:

- The recent ESPOO "Convention on Environmental Impact Assessment in a Transboundary Context" was developed in 1991. To date, all European Community countries, Canada and the United States have signed this treaty. Only United States, Germany and France are yet to ratify this multi-lateral treaty.
- Canada and the United States have signed the North American Agreement on Environmental Co-operation and have drafted a North American Agreement on Transboundary Environmental Impact Assessment".
- The UN/ECE Convention on Public Participation has been signed by the countries of the European Community.

Australia does not have formal institutional arrangements with other countries regarding the harmonization of EA procedures or co-operation on EA matters, however EA official indicate that in practice, assessments conducted by any party can be taken into account in determining what domestic assessment approach or EA track would apply to a project.

In Chile, there is an agreement with the Government of Argentina regarding mining projects and reviewing their environmental aspects in a co-ordinated fashion. Japan has no formal institutional arrangements regarding environmental assessment. Australia, Chile and Japan have signed the Madrid Protocol respecting Environmental Protection in Antarctica.

Table 13 classifies each country's EA regime according to one of three categories which best describes the scope of its institutional arrangements for extra-jurisdictional projects and projects with trans-boundary implications.

Table 13. Comparison of International Institutional Arrangements Regarding EA

No institutional arrangements exist for the co-ordination/ harmonization of EA processes for extra-jurisdictional projects or projects with transboundary implications.	A narrow range of institutional arrangements exist for the co-ordination/ harmonization of EA processes for extra-jurisdictional projects or projects with transboundary implications.	A broad range of institutional arrangements exist for the co-ordination/ harmonization of EA processes for extra-jurisdictional projects or projects with transboundary implications.
	• Chile • Japan • Australia	• Canada • France • Germany • United Kingdom • United States

4.2.9 Decision Levels

The decision level within an EA regime is closely related to the type of EA regime (Section 4.3.2) and the nature of approvals obtained (Section 4.3.5). In general, decision levels may be either totally centralized or decentralized, or variable depending upon the EA track or project. Although there are advantages and disadvantages with each approach, we hypothesized that national competitiveness would increase as EA process decision-making became more centralized. This element does not refer to final project approval decisions. We were of the view that clarity and certainty were more important at the national competitiveness level, than the counteracting force of greater flexibility as decision-making processes became more de-centralized.

In Canada, the level of decision-making generally depends on the EA track (i.e., screenings, comprehensive study, Panel reviews and mediations).

- For screenings, the Responsible Authority has decision-making authority on most EA matters, including ultimate permitting and approvals. The Canadian Environmental Assessment Act set out some parameters (e.g., Section 16 identifies the factors that must be considered). Because Responsible Authorities differ from one project to another, the overall level of decision-making is decentralized for screenings. The Minister of Environment may also refer the project to a Panel review or mediation under prescribed circumstances.
- For comprehensive studies, decision-making authority is shared between the Responsible Authority and the Minister of Environment. Responsible Authorities decide on matters of scope of the project, scope of the assessment and the scope of factors to be considered in the environmental assessment, while the Minister determines a course of action with regard to the project, taking into account the comprehensive study report and comments from the public. The Minister can then refer the project back to the Responsible Authority for licensing, permitting and other approval actions. The Minister may also refer the project to a Panel review or mediation under prescribed circumstances.
- For Panels and Mediations, the Minister of Environment decides on matters of scope of the project, scope of the assessment and the scope of factors to be considered in the environmental assessment in setting the Terms of Reference for the Panel or mediator, in consultation with the Responsible Authority Minister. The Minster, through an approval of the Governor-in-Council, refers the project back to the Responsible Authority for licensing, permitting and other approval actions.

Although there is a single EA track in the United Kingdom, and most EA decisions are made by Local Planning Authorities, there are provisions where the Secretary of State can 'call in' an environmental assessment for a project. Such projects are typically the more controversial areas. In such cases, the

Secretary of State becomes the 'competent authority' and is charged with making all EA and project related decisions. This is similar to the powers afforded to the Canadian Minister of Environment to refer a project to a Panel or mediation at any time during an EA process and make the ultimate decision on the EA/project.

Countries with EA regimes that are completely decentralized include Germany, France, Japan and the United States. In each of these cases, EA decisions on scope and approvals are made by the competent authority that issues an authorization, permit or license. As a result, these agencies can allow the project to proceed, reject the project, and/or attach conditions of approval. As such, decision-making is completely decentralized for all EA processes/tracks.

In contrast, the level of decision-making within the EA regimes in Australia and Chile is more centralized within one Agency. Interviews with EA Officials in Chile and Australia indicated that the aim is to ensure consistency in decision-making, improve accountability for decisions and provide a 'one-window' approach to the EA process.

- In Australia, the Minister of Environment makes all decisions concerning the EA process, including decisions regarding whether the Act applies, the type of EA process/track, and the final decision on the EA, including terms and conditions. In cases where the EA track chosen by the Minister of Environment involves an accredited State of Commonwealth EA process, the Commonwealth Minister of Environment retains his/her decision-making authority regarding the project, however State agencies also make their own independent decision on the project.
- In Chile, all EA decisions are centralized within one of the Regional COREMAs (Regional Commission for the Environment). Only projects affecting more than one region are submitted to the central or National Commission for the Environment (CONAMA).

Table 14 classifies each country's EA regime according to one of three categories which best describes the level or by whom EA process decisions are made.

Table 14. Comparison of the Decision Levels

EA decision-making tends to be decentralized for all EA process/ EA tracks	EA decision-making may be either decentralized or centralized depending upon EA track or project.	EA decision-making tends to be centralized.
• Germany • France • Japan • United States	• Canada • United Kingdom	• Australia • Chile

4.2.10 Public Participation

We hypothesized that national competitiveness would increase as the EA regimes became less prescriptive regarding the need for public participation in the EA. It is worthwhile repeating that this analysis is looking at public participation from the perspective of the national competitiveness only. We are not considering the broader perspectives of environmental effectiveness or overall societal justice and well-being, both of which could be furthered through effective and efficient public participation in EA processes. This factor does not consider the relative costs or complexities in implementing a public participation program, nor its role in project decision-making.

Nevertheless, public participation is a fundamental component of all EA regimes examined in this study. In each case, the focus of the statutory requirements is on the provision of notice to the public and opportunities to review and comment on EA documentation. The key differences among EA regimes relate to whether or not there is any discretion afforded to federal authorities in determining the need for public review and comment for various EA processes/tracks.

In Canada, the need for public participation in screening level assessments is discretionary for the Responsible Authority. An independent background study commissioned by the Canadian Environmental Assessment Agency indicated that public participation was included in about 10% to 15% of all screenings, primarily for larger and more complex projects. Public participation in Comprehensive Studies is mandatory only after the report has been completed, when the Agency invites the public to review and comment on the report. However, virtually all such Comprehensive Studies included public involvement during the EA process, in addition to the formal review and comment requirements under the Act. Public involvement in Panel Reviews is, by the very nature of this EA track, a fundamental and mandatory component.

This approach, whereby public participation tends to be mandatory for larger scale project and discretionary on smaller scale projects / selected EA tracks is most closely aligned with the EA regimes in Chile and the United States. For example

- Chile's EA regime requires that the public be afforded the opportunity to review and comment on all projects requiring an EIS *(Estudio de Impacto Ambiental)*, while completely discretionary for an EA completed as a DIA *(Declaración de Impacto Ambiental)*.
- In the United States, public participation is mandatory for any EIS to be completed. Affected federal, state and local agencies, Indian tribes, the proponents and other interested persons must be invited to participate in the scoping process for an EIS, and must be afforded opportunities to review and comment on a draft EIS report. There are no mandatory requirements for public participation in an EA report or FONSI.

Most of the other countries examined in this study, have integrated a public review and comment procedure into their EA regime. Typically, any project undergoing an EIS will require public participation prior to a decision being made on the project, either at a draft EIS or final EIS stage. Projects that are screened or excluded from the formal EA process do not typically involve the public. For example, France's public participation provisions are limited to projects requiring a full EIS *(etudes d'impact)* which are submitted to public inquiry, while other projects requiring a "Notice of Environmental Impact" *(notice d'impact)*, do not require public review and comment. In Germany, the EA regime also requires public notification of a decision to those who provided comments. Nevertheless, the EA Officials in France, Germany, Australia, and the United Kingdom interviewed as a part of this study emphasized that federal authorities encourage proponents to consult extensively with interested parties/stakeholders throughout the EA process, rather than relying exclusively on the formal opportunities for public review and comment. This is similar to the advice and guidance given to project proponents in Canada.

Table 15 classifies each country's EA regime according to one of three categories which best describes the opportunities for public participation mandated in EA legislation.

Table 15. Comparison of Public Participation Provisions

EA legislation affords opportunity for public participation in all EAs regardless of EA track or project.	**EA legislation affords opportunities for public participation for selected EA tracks or projects.** **Public participation tends to be mandatory for larger scale project and discretionary on smaller scale projects / selected EA tracks.**	**EA legislation contains no provisions for public participation in the EA process.** **Public participation is completely discretionary for all EA tracks and projects.**
• Japan • Australia • Germany • France • United Kingdom	• Canada • Chile • United States	

Public hearings and reviews are forms of public participation that have been integrated into most EA regimes examined in this study. In all cases, the results of these hearings and reviews are recommendations to the applicable decision-makers, who retain full discretion regarding the final decision on the EA or the project. Provisions for formal notice to the public vary, but are included in EA legislation. In all cases, this involves publication of notices in local media for specified time periods, or listing of projects subject to a hearing on federal registries, gazettes etc.

In Canada, a Responsible Authority typically refers a project to a Panel Reviews or mediation. Panel reviews and mediations are considered separate and discrete EA tracks, although both can be used in an

EA for a single project. In addition, the federal Minister of Environment is empowered to require a Panel Review or mediation at any time during the completion of a screening level assessment or a Comprehensive Study. This approach to public hearings and reviews is most akin to the EA regime in the United States, where public hearings are also possible where there is substantial environmental and/or public controversy concerning the project, or where a request has been made by an agency with jurisdiction over the project.

Although similar to the Canadian regime, Australia has also defined a separate EA track, called a Public Inquiry. In this case, Australia's Minister of Environment decides on whether or not a Public Inquiry is warranted early in the EA process. In contrast, the Canadian regime however, this initial determination is made with public involvement, but is (to all intents and purposes) irrevocable. In the United Kingdom, public inquiries are also possible for large scale and publicly controversial projects that are "called in" by the Secretary of State for the Environment.

Because France and Germany essentially have one EA track, some form of public hearing is mandatory for an EIS submitted for approval. Most often, these inquiries take to form of public meetings rather than more formal inquisitional hearings such as in Canada, Australia and the more formal quasi-judicial hearing formats in the United States. They are all organized and undertaken by independent bodies such as hearing officers or authorities. Interviews with EA Officials in Germany and the United States indicate that the style of hearings are tending towards a more informal format, similar to those in Canada.

The EA regimes in Chile and Japan do not include provisions for public hearings or reviews similar to those in Canada, Australia, the United States and the European Union. While the EA regime in Japan incorporates formal requirements for EA reviews by State and municipal governments, no separate EA tracks involving a public review or mandatory hearings are included. In Chile, there are no mandatory requirements for public hearings on projects, however the EA legislation places an obligation on the respective CONAMA or COREMA, as the case may be, to establish mechanisms to ensure informed public participation for an EIS.

Table 16 classifies each country's EA regime according to one of three categories which best describes the requirements for formal public hearings or reviews mandated in EA legislation.

Table 16. Comparison of Public Hearing / Review Provisions

EA legislation includes provisions for mandatory public hearings or reviews.	EA legislation includes provisions for public hearings or reviews for selected EA tracks or projects. Discretionary powers are afforded to the national government to require public hearings.	EA legislation does not contain any provisions for public hearings or reviews.
• France • Germany	• Canada • Australia • United Kingdom • United States	• Japan • Chile

4.2.11 Participant Funding

Participant funding refers to monies that are provided to interested parties to facilitate their participation in an EA process. Under the Canadian Environmental Assessment Act, a participant funding program is administered by the Canadian Environmental Assessment Agency to increase public participation in mediations and assessments by review panels.

For each project that must be reviewed by a Panel, funding is typically provided in two phases. In the first phase, funding helps participants prepare for and participate in any scoping meetings. The funds are also used to review and comment on the draft Environmental Impact Statement (EIS) guidelines. The deadline for first phase activity applications is four weeks from the issuance of the participant funding program notice. Funding in the second phase is used to review the EIS and to prepare for and participate in the public hearings. The work must relate directly to the environmental assessment of the project in question. Anyone can apply for funding, but selection for funding is based on specified criteria and not all applicants are successful in securing funds. An independent funding committee reviews the applications and makes recommendations to the Agency President based on a set of criteria contained in guidelines issued by the Agency.

No such provisions exist in any other EA regime examined in this study. However, several interviews with EA Officials (e.g., Australia, Chile, United States) indicated that although no legal provisions exist for participant funding in their respective EA legislation, there is always the potential that funding could be provided on a case-by-case basis. The EA officials interviewed could not however identify a specific case where such funding had been provided.

Table 17 classifies each country's EA regime according to one of three categories which best describes its provisions regarding participant funding.

Table 17. Comparison of the Provisions for Participant Funding

Legislation requires the provision of funding for the full range of EA tracks and/or projects subject to EA.	Legislation requires the provision of funding for selected EA tracks and/or projects subject to EA.	Legislation does not require the provision of funding for any EA tracks and/or projects subject to EA.
	• Canada	• Australia • Chile • France • Germany • Japan • United Kingdom • United States

4.2.12 Administrative Appeals and Judicial Review Processes

We hypothesized that national competitiveness would increase as the EA regime increased the opportunities for both administrative appeals and judicial reviews by the proponent.

An 'administrative appeal' refers to the ability of an individual or group (i.e., member of the public, non-government organization or other external stakeholder in the EA process) or the proponent to request that a decision taken with respect to an EA be reviewed by another individual with greater authority, powers or duties. An administrative appeal is not a request for the issue to be heard by the courts within a country's judicial system.

Under the Canadian Environmental Assessment Act, an individual may petition the Minister of Environment or the relevant Responsible Minister to refer the project to a Panel Review or Mediation, however there are no opportunities for an administrative appeal of EA decisions by a member of the public or by the proponent. For example, determinations made by the Responsible Authority regarding scope of the project, scope of assessment and the scope of the factors to be considered are not subject to an administrative appeal, nor is the final determination of the Responsible Authority regarding whether or not the project is likely to cause significant environmental effects.

The United State's NEPA however does allow for inter-agency disagreements to be referred to the Council on Environmental Quality for a recommendation. Such a recommendation is not a judicial review nor binding on the responsible/lead authority. Under CEAA, the Canadian Environmental Assessment Agency may, in cases of disagreements, advise Responsible Authorities with respect to their responsibilities. The advice is not binding on the Responsible Authority. No such 'conflict resolution' provisions exist in the Australian or French EA regimes, but more informal mechanisms have been applied in certain cases.

The EA regimes in Chile, Germany, and the United Kingdom offer the public and/or project proponents an opportunity to appeal administrative decisions. In some cases, timelines have been established regarding the deadlines for appeals and decisions by higher authorities. For example:

- In Chile, the decision on an EIS can be appealed by the "head of the community" to the Executive Directorate of CONAMA within 15 days. The Executive Directorate has 30 days to resolve the appeal. The public cannot appeal a decision on a DIA. Proponents however, have the right to an administrative appeal for a decision on an EIS or a DIA within 30 days. The appeal must be resoled within 60 days.
- In Germany, a person affected by the decision of an authority may lodge an appeal of the decision within 30 days. At first the appeal is reviewed by the competent authority itself to check whether the decision should be altered or held up. If the decision is not altered by this authority, the appeal is forwarded to a higher authority

(i.e., complaint authority) to check once again whether the decision should be altered or held up. Such an administrative review is considered a legal prerequisite for bringing an action to court.

- In the United Kingdom, an appeal can be made by a project proponent in the event that the Local Planning Authority fails to give a direction on the need for an EIA within the mandated three week period, or if the proponent disagrees with the decision. The appeal can be made to the Secretary of State for his/her decision on the matter. The Secretary of State generally has three weeks for a decision. In contrast to Chile and Germany, there are no third-party administrative appeal rights against approval decisions.

Table 18 classifies each country's EA regime according to one of three categories which best describes its provisions for administrative appeals.

Table 18. Comparison of the Provisions for Administrative Appeals

EA legislation affords the public with limited opportunities for administrative appeals of EA process decisions.	EA legislation does not afford any opportunities for administrative appeals of EA process decisions by the public or proponent.	EA legislation affords the proponent with limited opportunities for administrative appeals of EA process decisions.
• Chile • Germany	• Canada • Australia • France • Japan • United States	• Chile • United Kingdom

A judicial review refers to the ability of an intervenor or project proponent to challenge the legality of an EA decision through the country's court system. The rights to a judicial review of EA decisions by Canadian Courts are similar to those of Australia, Chile, France, Japan, United Kingdom and the United States in that the Courts will review the legality of the decisions and not their merits.

In virtually all cases investigated, there are no specific provisions in the EA legislation that limit public access to the courts. Provisions that exist in other countries tend to clarify that decisions of law are subject to judicial review. Issues relating to the merits of the project or EA are not subjects that are typically addressed by the courts. It should be noted that, access to the courts is typically governed by other national legislation which apply equally to all areas of government decision-making and not specifically EA. These laws can vary from one country to another.

Although access to the courts to challenge EA decisions under the German EA regime is also governed by other national legislation, an administrative review of an EA decision is considered a legal prerequisite for bringing an action to court. This pre-requisite may be considered a minor constraint that would limit some persons access to the courts.

Table 19 classifies each country's EA regime according to one of three categories which best describes its provisions for judicial appeals.

Table 19. Comparison of the Provisions for Judicial Appeals

EA legislation/ regimes do not limit the review powers of the courts to matters of law. EAs can be challenged on issues of merit.	EA legislation/ regimes limit the review powers of the courts to matters of law.	EA legislation/ regimes limit the review powers of the courts to matters of law, but require administrative appeal processes to be undertaken as a prerequisite
	• Canada • Australia • Chile • France • Japan • United Kingdom • United States	• Germany

4.2.13 Type of Risk Assessment Incorporated into EA

It is acknowledged that the application of well accepted or standardized methods and tools can serve to improve the efficiency of EA process. However, from a view that the flexibility in the choice of impact assessment methods or tools is desirable in order to encourage innovation, reduce costs and improve efficiency in an EA process, competitiveness was hypothesized to increase with fewer mandatory requirements for specific types of analytical tools such as risk assessments.

There are many different types of risk assessment. For the purposes of this study, risk assessment is considered to be a technical or analytical activity aimed at quantifying the hazards associated with a practice wherein possible events and their associated probabilities of occurrence are considered together with their consequences, including the consideration of the uncertainties with these estimates. Risk assessment is a tool used within the EA process to assist decision-making on selected issues or problems related to human and/or environmental health and safety.

Canada's and the other EA regimes examined in this study do not mandate the use of any specific analytical tools in an EA process. Such decisions are typically left to the project proponents or the

competent authorities in determining the scope of the assessment, the factors to be considered and/or the methodologies to be used. Interviews with EA Officials indicate that most competent authorities may require the use of some form or risk assessment (e.g., radiological risk assessment, ecological risk assessment, natural hazards research, etc.) as part of their practices and procedures, however these are not considered to be requirements of the EA process and are not typically addressed in EA legislation or procedural guidelines.

This general approach to risk assessment also applies to the EA regime in Japan, however because of the focus of the EA regime on ensuring environmental protection and adherence to regulations, there is more emphasis in the EA regime on quantification of environmental effects, significance and quantification of uncertainties in the EA process. For example, Japan's Basic Guidelines regarding the EIA law (1997) state that:

> *"forecasts shall be implemented basically by analyzing quantitatively how much impact the implementation of the subject project may have on the environmental elements...by way of numerical calculation, using mathematical models, experiments using models, etc., referring to or analyzing existing cases or by other methods".*

Table 20 classifies each country's EA regime according to one of three categories which best describes its provisions for conducting risk assessments.

Table 20. Comparison of Approaches to Risk Assessment in EA Processes

Some form of risk assessment is required by EA legislation or regulation.	Some form of risk assessment is encourage in EA related guidelines for selective application within the EA process.	No legislative or regulatory requirements for conducting any form of risk assessment. Inclusion of risk assessment is completely discretionary.
	• Japan	• Canada • Australia • Chile • France • Germany • United Kingdom • United States

4.2.14 Institutional Capacity Building

Because this study is focused strictly on National EA regimes, institutional capacity building refers to the activities undertaken by a *federal government* to develop and make available guidance materials and

training programs to government staff and/or project proponents to help ensure a common understanding of the requirements of the EA regime and provide guidance regarding specific technical matters on the EA process.

In general, all of the countries examined in this study build capacity or conduct training to some extent. All countries have also developed means to provide training and capacity building through non-government organizations, academic institutions, or by the private sector. For example, in the United Kingdom, there are at least 6 graduate programs plus numerous short courses offered by Universities. They also have several EA Research Centres based in universities which review national practices and provide best practice advice to government, EA practitioners and project proponents.

The key differences lay in whether such activities are seen as core activities for the federal government by virtue of provisions in EA legislation that encourage training and capacity building. Therefore, National EA regimes were hypothesized to become more competitive as they identified capacity building as a priority and provided training, etc. to the appropriate authorities, proponents, EA practitioners and the public.

EA legislation in Canada, Japan and the United States include provisions that encourage training and EA capacity building. Interviews with EA officials also indicate that each of these countries provide a variety of opportunities for training on a regular basis. For example:

- In Canada, the CEAA affords the federal Minister of Environment with the powers to issue guidelines, codes of practice respecting the application of the Act and regulations, establish research and advisory bodies, enter into agreements and arrangements with other jurisdictions for the purposes of consultation and information exchange; and establish a variety of criteria to facilitate the implementation of the Act. In addition, the Act establishes the Canadian Environmental Assessment Agency which is empowered to undertake a variety of capacity building activities (e.g., administer the environmental assessment process, promote uniformity and harmonization, promote research on environmental assessment matters, provide information or training).
- In Japan, the EIA Law empowers the federal government to improve technologies necessary for conducting environmental impact assessments by promoting research and development of such technologies, and publish guidelines and criteria for use by competent authorities in administering the EA process.
- In the United States, the National Environmental Policy Act established the Council on Environmental Quality which oversees the implementation of the environmental impact assessment process and acts as a referee when agencies disagree over the adequacy of such assessments. The CEQ issues guidelines and conducts training regarding various aspects of the EA process.

Most other countries do not view training or capacity building as a core activity, however all of the countries examined in this study provide training to government staff with EA responsibilities and issue a variety of guidance materials to proponents and the public in order to facilitate the EA process. In all cases, individual federal authorities or competent authorities conduct their own training and may issue their own guidance materials relevant to their areas of jurisdiction. Typically however, such guidance material that are issued are focused on specific procedural matters in the EA process (e.g., how does one determine if the EA legislation applies to a project).

In contrast, guidance materials available in Canada and the United States appear to be considerably more broad in scope, ranging from operational policy statements and guides on procedural matters to more issue oriented guides and manuals (e.g., cumulative effects assessment, assessment of effects on cultural resources, environmental justice, etc.).

Table 21 classifies each country's EA regime according to one of three categories which best describes its provisions for institutional capacity building.

Table 21. Comparison of Institutional Capacity Building Provisions

EA legislation does not contain any provisions that encourage training and EA capacity building. No opportunities for training are provided by the national government. No guidance materials are available.	EA legislation does not contain any provisions that encourage training and EA capacity building. Opportunities for training are provided on an ad hoc/as requested basis. Guidance materials are limited in scope.	EA legislation may contain provisions that encourage training and EA capacity building. Opportunities for training are provided on a regular/routine basis guidance materials are broad in scope.
	• Australia • Chile • France • Germany • United Kingdom	• Canada • Japan • United States

4.2.15 Sectoral Requirements or Considerations

Starting from the importance of clarity, we hypothesized that EA regimes became more competitive as they provided more detail (i.e., specific processes, guidelines, etc.) on specific sectors or project types. However, none of the countries examined in this study define unique EA processes for a broad range of sectors or project types or used sectoral EA processes in any systematic manner. Rather sectoral based EA processes are exceptions rather than the rule. Where sectoral EA processes exist, they conform to the spirit and intent of the overall EA regime.

In Canada, unique EA processes have been defined for Port Authorities and for agencies involved in projects outside of Canada. In Germany and Japan, minor modifications to the EIA law exist for only a few sectors (e.g., mining projects, land use plans, consolidation of farmlands, airport and harbour developments). These modifications relate primarily to the stage in which EIA and/or public notification is required (i.e., EA at the master planning stage) rather than creating major deviations. In the United States, sectoral processes have been defined for specific agencies such as the Federal Aviation Administration (FAA) for airport developments.

Table 22 classifies each country's EA regime according to one of three categories which best describes its approach to EA for specific sectors.

Table 22. Comparison of Unique Sectoral Requirements

EA legislation/regime does not contain any provisions for unique EA processes for any sectors of project types.	EA legislation/regime contains unique EA processes for a limited range of sectors or project types.	EA legislation/regime contains unique EA processes for several sectors or project types.
• Australia • Chile • France • United Kingdom	• Canada • Germany • Japan • United States	

Sectoral based guidance materials are available in several countries examined in this study. Interviews with EA Officials indicate that a sectoral approach to training and guidance in EA is not a priority and would largely be the responsibility of individual federal authorities, rather than a single authority or agency. Interviews also indicated that sectoral guidance materials are more often developed by industry associations for more technical issues relating to project development, rather than EA process related guidance. In most cases, guidance materials are developed largely in response to the number of EAs being submitted in a particular sector or a need to improve the quality of EAs submitted for review. Most often where sectoral based guidance material have been issued by federal authorities, they reflect a desire to consolidate and share experience that was gained with environmental assessments of certain projects over time. To this end, Canada does not appear to provide sector-based guidance in a systematic or comprehensive manner. Nevertheless, this consistent with the overall approach to training and guidance evident in other countries examined in this study.

Where sectoral guides exist, they tend to set out the minimum expectations of federal authorities for an EA and do not provide extensive technical guidance to assist in project planning and design. Rather such guidance materials is intended to be broad in scope and is typically aimed at a variety of audiences, including: project proponents, federal authorities and agencies, biophysical and social scientists who

conduct assessments, and other participants in the EA process. Generally, these guides do not impose a rigid set of information requirements or report structure for EAs nor do they provide a detailed template for data-gathering and analysis or serve as the definitive source for all EA requirements.

Table 23 classifies each country's EA regime according to one of three categories which best describes its approach to the provision of training and guidance materials for specific sectors.

Table 23. Comparison of the Availability of Sectoral Training and Guidance Materials

No sectoral based guidance materials are available for any sectors or project types.	Sectoral based guidance materials are available for a limited range of sectors or project types.	Sectoral based guidance materials are available for several sectors or project types.
• United Kingdom	• Canada • Australia • Chile • Germany • Japan • United States	• France

4.3 Overall Comparison of EA Regimes

As mentioned previously, this research identifies key areas of convergence and divergence (i.e., those broad areas where differences among EA regimes exist) in order to consider their potential implications on competitiveness. However it must be acknowledged that each country has developed its own EA regime within its own national political and judicial system, and that each EA regime has its own unique qualities, custom features and deviations, its own set of advantages and disadvantages. Therefore, it is not necessarily appropriate to extrapolate findings regarding an individual element from one country to the Canadian context. Readers are therefore reminded that this research is preliminary and directional only, identifying broad areas where differences among EA regimes exist. Clearly, there is no single or best way to structure and implement an environmental assessment process.

This section provides an overall comparison of the EA regimes, by highlighting those key elements for which the Canadian EA regime clearly diverges from the majority of other countries examined in this study or is unique in its approach or requirements. This overall comparison is intended to set the context within which the competitiveness analysis will be undertaken in Section 5. The following table summarizes this overall comparison.

Table 24. Overall Comparison

Key Element	Does the Canadian EA regime differ substantially from most of the others? Is it Unique?	Comments
Strategic Purpose	*No*	• The strategic purposes of EA regimes generally fall into one of two major categories (i.e., 1. promotion of sustainable development and 2. the more narrower objective of environmental protection). Canada's EA regime emphasizes sustainable development and is the main decision-making vehicle to accomplish this on specific projects. The EA regimes in Australia and the United States are similar in this respect. • Other EA regimes focus more narrowly on environmental protection and EAs are only one contribution to decision-making regarding sustainability.
Type of EA Process	*Yes*	• The Canadian, Australian, Chilean and EA regime in the United States afford opportunities for projects proponents to avoid the application of the EA process, 'screen' a project out of the EA process and/or to conduct a "lower level" EA where appropriate. • Opportunities to 'scope' the assessment exist within all EA regimes, but are not as formalized in Canada as elsewhere.
Types of Projects Covered	*No*	• EA regimes identify the types of projects subject to EA in different ways. All national EA regimes focus on their own areas of National importance or interest as determined by their own political context. Whether these areas of National importance or interest are defined by legislated triggers, prescribed lists or otherwise, does not necessary mean that their scope of coverage is greater or narrower. Therefore, .firm conclusions cannot be made with respect to which one would cover the greatest range of project types. • EA regimes in Canada and the United States use similar 'triggers' rather than project lists/thresholds (European Union, Japan and Chile) or 'significance' based triggers (Australia).
Scale of Project Subject to EA	*Yes*	• The Canadian EA regime can apply to small, medium and larger scale projects. Opportunities to exclude projects from EA requirements are for extremely small projects identified on a general Exclusion List. Most other EA regimes focus more on medium to large scale projects. • It is noted that a fewer number of projects require a comprehensive study or a Panel review, than require EISs in the United States and European Union countries.

Table 24. Overall Comparison

Key Element	Does the Canadian EA regime differ substantially from most of the others? Is it Unique?	Comments
Nature of the Approvals Received	*Yes*	• In Canada, Australia and the United States final project approvals need to be obtained through permitting processes of individual federal authorities, in addition and subsequent to the EA process. A favourable determination on the EA is needed before permitting processes can be initiated. • European Union countries have integrated the EA process within the permitting and approval process for projects with environmental consideration being only one input into overall project permitting /approval decisions. • Chile's EA regime is unique in that it provides for a 'one window' approval of the project through a formal EA approval.
Prescribed Steps	*Yes*	• Canada's EA regime is unique in that the EA legislation focuses on the powers, duties and functions of federal authorities in the EA process. The steps that need to be taken to complete the EA process are partially prescribed in legislation or regulations. Details are provided in guidelines and other non-statutory instruments. • Most other countries examined in this study prescribe the steps that need to be taken to complete the EA process within statutory instruments.
Timelines	*Partial*	• Germany, Japan and the United States do no specify any timelines in their EA legislation or regulations. • Australia, Chile, France and the United Kingdom specify timelines for both EA start-up and completion for all EA tracks. • Canada's EA regime offers a mix of both start-up timelines and EA completion timelines depending on the EA track. Canada's EA regime specifies timelines only for certain aspects of start-up. Guidelines define timelines for Panel reviews and comprehensive studies.

Table 24. Overall Comparison

Key Element	Does the Canadian EA regime differ substantially from most of the others? Is it Unique?	Comments
Roles and Responsibilities	*Yes*	• The national political structures determine the effectiveness of intra-jurisdictional harmonization and co-ordination. Countries with a shared approach to environmental and resource management have a need to clarify roles and responsibilities to a greater extent than others since they usually require co-ordination between the national EA regime and the sub-national EA regimes to fulfill their respective responsibilities. Unitary states and those with clearer divisions of powers do not require such co-ordination. • In Canada, non-statutory mechanisms are relied upon for harmonization among jurisdictions and co-ordination within the federal government. • The United States and Australia, with similar federal structures, rely more on statutory mechanisms to achieve inter-jurisdictional harmonization and internal co-ordination, and support these with non-statutory instruments.
Decision Levels	*Yes*	• All EA regimes clearly specify the level of decision-making within legislation or regulation. • Canada's EA process either centralizes or decentralizes decision-making depending upon the EA track. • Other EA regimes tend towards a completely decentralized or centralized system.
Public Participation	*No*	• All EA regimes include some provisions for public notification and access to EA information. • Canada's EA regime affords opportunities for public participation for selected EA tracks, with participation tending to be mandatory for larger scale projects and discretionary on smaller scale projects. • EA regimes of other countries effectively achieve the same result, although through different means. A mix of mandatory requirements and discretionary powers to require public hearings is commonplace.
Participant Funding	*Yes*	• Canada is unique in that the Canadian Environmental Assessment Act includes provisions for participant funding for Panels and mediations. • No other EA regimes contain similar provisions, although more informal mechanisms to provide funding are possible.

Table 24. Overall Comparison

Key Element	Does the Canadian EA regime differ substantially from most of the others? Is it Unique?	Comments
Administrative Appeals and Judicial Review Processes	*No*	• Chile and Germany are the only countries with provisions that afford the public with an opportunity for an administrative appeal. The United Kingdom offers the proponent with an opportunity for an administrative appeal. • Public rights to judicial reviews are usually determined by other statutory instruments unique to each country. All EA regimes limit the review powers of courts to matters of law.
Type of Risk Assessment Incorporated into EA	*No*	• None of the EA regimes examined contain explicit requirements for any form of risk assessment. The use of this tool is discretionary and depends upon the requirements of the individual competent authority for each project on a case-by-case basis. • The EA regime in Japan tends to encourages the use of quantitative methods more than others.
Institutional Capacity Building	*Yes*	• EA legislation in Canada, Japan and the United States all include provisions that encourage training and EA capacity building. Institutional capacity building is viewed as a core activity of the National government. • Most other countries do not view training or capacity building as a core activity, but rather rely on academia and the private sector and may support these activities through funding.
Sectoral Requirements or Considerations	*No*	• Canada, Germany and Japan have created unique EA processes and/or provide guidance materials for some sectors. There are few significant deviations from the EA process in these special requirements. • Only a small percentage of EAs are covered by these special sector requirements

5. Research with Multinational Corporations

The interviews with representatives of large multinational corporations were to determine:

- whether a nation's approach to EA affected the decisions of corporations to invest in that country ("national competitiveness");
- if EA was a factor, then the specific features of EA regimes that were of most concern;
- how Canada's national EA regime compared to its competitor nations for those specific features; and, finally,
- empirical estimates, if available, of the incremental costs to companies of complying with national EA regimes.

We deal with the first question in the following section, entitled "*National Competitiveness of EA Regimes*". The remaining questions are then addressed in the section entitled "*Company Competitiveness and National EAs*".

5.1 National Competitiveness of EA Regimes

The Telecommunications Manufacturing Sector: An Exception

One of the companies approached to participate in the research was *Nortel Networks*. Company representatives noted that Nortel was moving towards outsourcing of its manufacturing and had disposed of approximately 30 facilities in recent years. The company's environmental issues were those associated with a knowledge company, rather than a manufacturing one. Topics such as design for the environment, supply chain environmental management, etc. were their primary issues- not national EAs.

The CEAA, as well as EA requirements in other jurisdictions, had not had any impact on Nortel's competitiveness and were unlikely to do so as the company continued its move towards outsourcing. Thus, we exclude this company from the following analysis.

5.1.1 The Top Ten Investment Decision Factors: An Overview

What is the single most important decision factor in locating industry investments?

Project profitability. Some corporations measure it as return on investment (ROI) against a target rate, others as discounted net present value (NPV), others as economic value added (EVA), but it stands alone

in its primacy as the most important decision factor. All the other factors provided in the list come into play, either by influencing the profitability and investment hurdle rate calculation, or as a secondary issue to be dealt with once the profitability hurdle has been overcome.

Which other decision factors are also important?

Economic environment, proximity to customers/raw materials, construction costs, political factors, and land/property rights acquisition were the most frequently cited factors, after profitability. Many of the responding companies are in the natural resources sector (mining, forestry, energy) and hence the importance of proximity to raw materials and land/property rights acquisition.

These results were common across all of the sectors represented. However, the factor, *human resources (cost, quality and availability)*, was more important to the energy and chemical firms than to the natural resources firms.

Are national EA regimes a primary factor in investment location decisions?

No, not for these large transnational corporations. All of these corporations recognize EAs as a fact of life, no matter where they do business. Here are some typical quotes from participating representatives.

- "EA and environmental regulations are important issues, but not primary investment location decision factors. They are just things that you do once the commitment has been given to the project."
- "We would not discount any country on the basis of its EA regulations".
- "We do EAs as a normal part of our business. Frequently, our internal EAs are more rigorous than the national EA regimes."
- "EA requirements, even when they are clear and reasonable, should be regarded as the absence of a negative, rather than as a positive. They should never expect to be a competitive advantage."

The respondents added that national EA regimes could affect the profitability of a project, usually by causing a delay in the project. However, the costs of the EAs themselves were reported to be usually a very small part of the total cost of a large project. Even complex EAs were reported to not affect project profitability, usually, provided that the EAs were completed within reasonable timelines.

Two companies did, however, report that difficulties with national EA regimes had contributed, in part, to their decisions to focus their investments outside of those countries. The two countries were the USA and Canada. We return to those examples later.

Table 25 summarizes the responses of the participating companies to the ranking of investment decision factors. The column "*ordinal rank*" represents the relative importance of the factors based on the number of companies that identified the factor as being of importance. Note that, for a variety of reasons, not all of the companies could answer this question directly.

Table 25. Ranking Investment Decision Factors By Factor

Investment Location Decision Factors	Ordinal Rank	Frequency of Responses Across All Sectors *(eight respondents)*
Projected ROI for the Project	1	8
Economic Environment	2	6
Proximity to Customers/Raw Materials	3	5
Construction Costs	3	5
Political Factors	3	5
Land/Property Rights Acquisition	3	5
Social Factors	4	4
Taxes	4	4
Financing Costs	5	3
Infrastructure	5	3
EA Regulation	6	2
Human Resources	6	2
Incentives	6	2
Other	6	2
Other Regulations	6	2
Currency Exchange Rates	7	1
Environmental Regulation	7	1

5.1.2 Key Investment Decision Factors For Each Of The Selected Countries

A second question then asked the representatives to consider each of the countries in which their corporations had made investments and to list the factors that had had a significant influence on the details of the implementation of the investment decision.

Note the difference between this question and the one above. The two questions deal with sequential decisions by the corporation. The previous question identified the important factors in a corporation's first decision on where to invest. This question then asked, once the corporation had decided where it wanted to invest, which particular factors became significant in the implementation of that investment decision? Thus, factors that were not identified as important in the previous question could be identified in this second question. The results are summarized in Table 26.

Table 26. Key Investment Decision Factors by Country For All Sectors

	Forest Products	Mining	Energy	Chemical	Manufacturing
Australia	– other regs	+ raw materials + EA certainty	– no gov't policy on resource development	– bureaucratic processes	+ raw materials, low costs
Canada	+ materials supply – onerous EAs for pulp and paper mills	+ raw materials – long/complex EA process – EA uncertainty	– EA uncertainty/ overlap/timing	– unnecessary work under EA (but project abandoned for other reasons) – open-ended EA process	+ access to energy
Chile		+ raw materials + EA certainty			
France		+ raw materials		– deficiencies in enviro regs.	
Germany	– other regs	– long approval timeframes		– deficiencies in enviro regs.	
Japan	no major capital investments				
United Kingdom		+ access to EU market		– deficiencies in enviro regs.	
United States	+ locality	– EA delays	+ EA deadlines – legalistic, propensity for court actions	– EA too complex, prescriptive	

Here are the highlights of these results.

- EA was identified as a factor in ½ of the countries in which these firms had capital facilities (4/8). It was a positive factor in two countries (Chile and Australia), and a negative factor in the other two countries (Canada and the US).
- Three companies (one energy, one mining and one forest products) identified difficulties with the Canadian EA processes in project implementation. Three other companies (two mining and one chemical) pointed to difficulties with the USA EA regime. The positive (+) note for the USA was from an energy company that had gone through EAs in the USA that had been difficult and expensive, but that had stuck to strict deadlines and had resulted in firm decisions.
- The EA processes of Chile and Australia were identified as a positive influence because of certainty and timeliness of those two systems.

5.1.3 The Importance of EA to the Investment Decision by Country

As a final perspective on EA and national competitiveness, we asked the representatives to rank the extent to which national EA regimes had been a factor in the actual investment decisions that their companies had made in each of the selected countries. The purpose of this question was to cross-check the answers to the previous question and to provide additional insights into how national EA regimes affected investment decision implementation. The results are in Table 27 below.

Table 27. Ranking The Importance of National EA to Investment Decisions

	Frequency of Responses			
	Always Secondary	*Usually Secondary*	*Usually Primary*	*Always Primary*
Chile	4			
France	5			
Germany	4			
Japan	4			
Australia	5	1		
United Kingdom	3	1	1	1
Canada	6	1		2
United States	4	1	1	2

In discussing this question, the representatives pointed out three facts.

- Project profitability was the primary factor on investment decisions. This rating of national schemes was talking about the follow-on work of project planning and implementation, once the investment location decision had been made.
- National EA regimes should not expect to be a positive factor, encouraging investment. Even the best EA regime would be viewed as the absence of a negative, rather than as a positive.
- It is difficult to compare national approaches to EA. In the real world, a company faces the entire legal structure of a country. EA is but one component of that structure. For example, an apparently simple EA process could turn out to be difficult once all the appeal and other redress mechanisms were identified that existed under other legislation, regulations and common law practices.

In general, national EA regimes were rated "always secondary". This is consistent with the responses to the previous questions. However, the regimes of the UK, the USA and Canada received some ratings of "*always primary*" by several of the companies.

In these three countries, some companies had experienced difficulties with the EA regimes on particular projects and thus the EA had become an important part of their project planning and implementation. The UK rating was given by one company that had acquired two facilities there and, after discussion, it was agreed that the difficult experience had more to do with the age and state of the facilities, than with the national EA regime per se.

The other countries were all rated as "always or usually secondary", meaning that the companies had not experienced significant difficulties with the EA regimes.

5.1.4 Specific Features of National EAs for These Two Countries

We then asked the company representatives to identify the particular features of national EA regimes, if any, that had contributed to difficulties. The following is a summary of their responses. We focus on the EA regimes of the USA and Canada because they received several "always primary" ratings, as we noted above.

Strategic Purpose

The company representatives noted the distinct differences between the countries' overall approaches to EA. Some countries were driven by the desire to attract and facilitate new investment. These countries (generally Chile and France) were viewed as ensuring that the EA process fit within the broader strategic purpose of sustainable economic development. Other countries' EA processes, especially those of Canada and the US, were viewed as being driven primarily by environmental considerations, with less concern for the value of new investment and economic development.

Type/Scope/Level of Project

Some companies raised concerns about the lack of formal opportunities for scoping in the Canadian EA process. Other companies noted the lack of "off-ramps" in the Canadian EA process compared to the US system.

Timelines

This was one of the most important concerns for companies. Repeatedly, company representatives stated that they could deal with complex technical requirements of national EAs, as long as timelines were certain. As we identify in Section 5.2, the biggest economic cost to companies is said to come from project delays, not from the costs of complying with technical requirements of EAs. The Canadian EA, while having start-up timelines for specific aspects of the EA processes, was generally viewed as slower and less predictable than EAs of other countries. The comment was made that as one spends more on EA, greater certainty should be attained. This was not viewed as being the case in Canada, due mainly to uncertainty over the panel review process and the potential scope of court appeals, or in the US, because of the likelihood of litigation.

Roles and Responsibilities

Lack of harmonization among national and sub-national governments was a major concern for a number of companies for Canada, the US, and Australia. No company identified existing federal-provincial harmonization agreements as having had a substantive impact on Canadian EA processes.

Decision Levels

Company concerns were focused on the Canadian situation. Concerns were raised about the role and experience of RAs in Canada. A number of examples were given in which the federal RA was not familiar with the EA process or was apparently reluctant to make decisions. At least one company cited a lack of specific knowledge and experience with the local socio-economic and cultural environment as a problem for federal RAs. One company commented that a negative feature of the US regime was the highly prescriptive nature of the US approach inside EAs to technical mitigation issues. The level of detail and prescriptive requirements to use "best available technology" (BAT) for mitigation measures in the US potentially limits development of new, innovative approaches by companies.

Judicial Appeals

Some of the company representatives expressed concerns about Canadian courts agreeing to examine issues of science rather than of law. We were not provided with detailed examples of cases in which this had actually happened. Other observers of the Canadian EA scene commented that this concern could be a matter of perception only, in that, in fact, the courts were confining themselves to matters of law despite being urged to go beyond that bound.

Institutional Capacity Building

Some companies raised concerns about the level of knowledge and expertise of Canadian RAs on the technical aspects of EA, and of particular industry sectors. Companies gave examples of other national EA regimes, France in particular, in which sector experts were involved right at the beginning in guiding the EA process and steps. Some companies recommended that more effort be expended in Canada in educating RAs about CEAA processes, what it means to integrate environmental concerns with sustainable economic development, and similar topics.

5.1.5 Projects Being Kept Out of a Country Because of Its National EA Regime

One practical indicator of national competitiveness is the extent to which potential projects are withheld from a country because of the country's EA regime. We asked the representatives if they had examples of company projects that were kept out of a country because of anticipated difficulties with that country's national EA regime.

The respondents noted, again, that national EA regimes were not a primary determining factor in investment location decisions. To many in the natural resources sector, it is imperative to go where the resources are found. However, two company representatives did identify projects and activities that were being pursued elsewhere because, in part, of the EA regimes of Canada and the US.

In one case, a value-added processing plant could have gone to either Canada or an EU country. The project, worth about $70 million and representing 70-100 jobs, went to the EU country. Bad experience with Canada's national EA regime was one of several reasons given for the decision. Other reasons included greater access to EU customers, who were the primary markets for the value-added products. It was not possible to determine more narrowly the extent to which EA issues figured in this corporate decision.

The other example was in the US. The difficulties of EA, and environmental permitting in general, had contributed to this company's decision to focus all of its new "greenfield" activity outside of the US. Most of the company's new markets are outside of the US, so EA was not the sole reason for that decision. As in the case above, we could not determine more closely the extent to which EA issues figured in this decision. Access to markets was clearly an important factor also.

A large natural resource company representative also stated that most of its primary development work was now taking place outside of Canada, due, in part, to a desire to avoid the Canadian EA regime. Lack of timeliness and too broad a scope were the main features of the Canadian EA system that were cited as problematic. These issues were either not as significant in other countries or were handled differently.

5.2 Company Competitiveness and National EAs

We now present the results of questions about the effects of national EAs on the two selected measures of company competitiveness. We repeat the caveats mentioned earlier in this report about the small number of companies, the small number of projects that they had subjected to national EA regimes and the fact that not all companies had done projects in the same countries. As well, limited time prevented us from getting into the details of projects to make possibly important distinctions between, for example, a difficult situation that resulted from a truly problematic project and a difficulty that arose from a poorly designed EA scheme. These results should be interpreted as directional only, highlighting possible areas for further investigation.

5.2.1 Competitiveness Impacts of National EA Regimes

The project terms of reference identified two particular measures of a company's competitiveness that were to be tested for in the research with the transnational companies:

- the ability of affected firms to access markets and compete for market share; and,
- the ability of the firms to adapt and compete in the international marketplace and in international tendering and bidding processes.

Ability to Adapt and Compete in the International Marketplace and in International Tendering and Bidding Processes

The companies reported that international tendering and bidding processes were not a major feature of their international business. However, this measure was important to the manufacturers of capital goods for export and for design/build consulting engineering firms. We deal with them separately, later in this report.

The company representatives did note that EAs could affect a firm's ability to adapt to changes in the international marketplace, even in these sectors that are characterized by long lead times for projects. There are windows of opportunity that arise, both for new products/materials and prices for existing products/materials. These opportunities must be seized quickly. The EA schemes of Canada and the US were singled out as being unresponsive to these urgent requirements, primarily, in the respondents' views, because of a lack of timeliness. The examples given were of EAs in Canada and the US taking longer than an EA in one of the competitor countries.

Ability to Access Markets and Compete for Market Share

This competitiveness measure was affected by national EA regimes as demonstrated by Table 28.

Table 28. The Impact of EAs on Ability to Access Markets and Compete for Market Share

	Frequency of Responses				
	No Effect	*Always Minor*	*Usually Minor*	*Usually Significant*	*Always Significant*
Australia	4		1 neg		
Canada	4		3 neg	1 neg	
Chile	6				
France	4		1 neg 2 pos		
Germany	3		1 neg		
Japan	5		1 neg 1 pos		
United Kingdom	4		1 neg 1 pos		
United States	4		1 neg	1 neg	2 neg

By "*positive*", the respondents meant that the EA had a reinforcing impact on their ability to access markets and compete for market share; a "*negative*" response had the opposite meaning.

Canada and the US were the only two countries to receive "usually" and "always" -significant negative ratings. Chile was the only country to not receive even a "minor impact" rating.

The US Ratings

Two of the three significant US negative ratings (usually significant and always significant) refer to mining projects in a US state that apparently has a long-standing hostile attitude towards this part of the natural resource sector. EAs in that state, and environmental permitting in general, tend to be long, drawn-out and hostile processes with little co-operation among the state, the Federal authorities and the project proponent. The third negative rating comes from a company that makes no new "greenfield" investments in the US due, in part, to the considerable difficulties encountered in US EA processes and environmental permitting in general. About 50% of the company's growth is in international markets and they are focusing their "greenfield" projects in those areas.

The Canadian Ratings

The Canadian ratings from four respondents (three usually minor and one usually significant) stemmed from the following concerns on the part of the company representatives:

- A lack of timeliness in carrying out the steps of the Canadian EA process, on the part of the Federal authorities responsible for the EA.
- Difficulties encountered in scoping the EA, caused, in part, by confusion over Federal and Provincial jurisdiction over the issues to be covered in the EAs.
- Hesitancy on the part of the Responsible Authorities (RAs) to make scoping decisions and process limitations on, for example, the time to carry out certain steps. This hesitancy was attributed to a combination of a fear of triggering legal actions if the RAs acted without consulting "everyone on everything", and a lack of the required sector and project technical information on the part of the RAs.
- The absence of practical guidelines for the Federal RAs contributed to uncertainty and delay. The technical representatives for the companies found themselves explaining the sector and the project to the RAs who had little or no technical background in the industry. The focus of the RAs was on the environmental issues and their host Department's mandate, not a balance between economic development and environmental management.

Impact of EAs on Costs of Products/Materials

Company representatives stated that EAs did not impose significant incremental increases on the production costs for the eventual project. The most significant impact of EA regimes occurred when a project was delayed.

Impact of EAs on Normal Project Planning and Implementation

This question had to do with the extent to which EAs coincided with the normal project planning and implementation activities of the corporations.

For most of these large companies, there were no serious disconnects between national EA regimes and what the firms considered to be normal project planning and implementation activities. If the national EA process stated clearly both the steps and the information requirements, it then became a matter of matching EA milestones with corporate project planning and implementation milestones. In general, the companies adapted to the national EA regime.

All of the companies carried out EAs as a matter of routine corporate policy. In many cases, they carried out EAs even when a national regime might not call for one. Examples given were: plant expansions, mothballing of facilities, taking ownership of other facilities and new projects in developing countries that do not yet have a formal EA program.

Some of the companies have codified EA policies; others refer to "best practices", with the definition of best practices evolving over time. About 1/3 of the companies used the World Bank's EA standards as the basis for their corporate EA policies.

However, the detailed answers to the question varied by country and by project. The representatives pointed out that, while all the national schemes had common points, they also differed significantly in their focus. For example: the French regime was believed to be aimed more at ensuring engineering integrity than at identifying and mitigating possible environmental impacts. That made the French EA regime relatively simple and straightforward. The companies identified environmental impacts and mitigation measures even when the French regime did not call for them to do so.

A further difficulty in comparing national EA regimes, referred to earlier, is that EA is but one part of the overall legal system in a country. It is the entire legal context that a company faces in implementing a project, not just the EA component.

The Costs of the Planning and Implementation Activities

Even though normal corporate practices and national EA systems did not, generally, conflict seriously with each other, the national schemes might still impose additional costs for project planning and

implementation. For example: if the EA scoping parameters were broader than the company's, then a company might be required to spend considerably more time and money on activities such as technical research or consultation, to ensure that they were completed on time.

In general, the representatives did not identify significant incremental costs for project planning and implementation that were attributable to the activities of national EAs. However, there were three exceptions- two for Canada and one for the US.

- One corporation that had undergone a particularly difficult EA in Canada estimated that it had spent about 30% more on the EA due to the CEAA requirements, in particular the complex and uncertain processes. Legal costs alone were over $2 million, more than the company estimates that it would have spent if the project had been in the US, with its reputation as a litigious host.
- A mining company estimated that a US EA had cost over 20 times what it should have, and that the EA was still not completed. The project was in a State that was viewed as having a long-standing hostility towards natural resource exploitation and the EA was being fought tenaciously, in the EA arena and in the courts. The company continued because of a long-term interest in the opportunity.
- An energy sector company did equivalent EAs in the US and Canada. The Canadian one took twice as long as the company estimated that it should have taken, based on experience with exactly similar projects that predated the CEAA. The Canadian process took four months longer than the US process and, in the company's view, produced no difference in environmental management results.

The Costs of Project Delays Attributable to National EAs

The most serious concern with national EA regimes was not the cost of the individual EA activities, but rather the economic costs to the company of project delays that were attributable to the EA regimes. In some situations, the representatives reported that their companies had spent heavily on particular EA steps just to ensure that the EA process, and thus the project, did not fall behind schedule.

The real-world complexities usually made it difficult for the representatives to attribute project delays to EAs, solely. Many other factors, such as changes in market prices and other legal and permitting issues, also contributed to changes in project timing. However, the representatives cautioned that EA delays should not be excused just because other factors might have contributed to overall project delays.

None of the companies had prepared estimates of the economic costs to them of project delays that were caused, at least in part, by delays in national EAs.

5.3 The Benefits to Companies of the National EA Regimes

The *Ongoing Monitoring Program* of the CEA Act identified three categories of what were called "societal benefits" that were attributed to the Canadian Federal EA regime. These benefits were:

- *Process benefits*, realized in cases where the Act provided an efficient/effective framework for integrating environmental considerations with project planning;
- *Study benefits*, in which the Act lead to improvements in assessment quality and/or a reduction in assessment costs; and
- *Outcome benefits*, whereby environmental impacts were avoided in the assessment or mitigated during project implementation.

Details of these benefits attributed to the CEAA can be found in the report *Ongoing Monitoring of the Canadian Environmental Assessment Act, Final Report*, dated August 1999.

The company representatives were asked if any such benefits could be attributed to the national EA regimes. Here is a summary of their responses, organized by the type of benefit identified in the *Ongoing Monitoring Program.*

Process Benefits

The representatives agreed that, in theory, good EAs could be a framework for integrating environmental considerations into business project planning. The EAs of France and Chile were identified specifically as achieving that goal.

Several respondents did identify process benefits with CEAA, in particular improved relationships with some regulatory agencies and a better understanding of the socio-economic implications of the projects. However, their concern with the CEAA was that the primary focus of EAs appeared to be on environmental management, and not on achieving an integration of environmental issues with good business project planning. Several companies identified the problem as being the way in which the RAs were assigned under the rules of CEAA. A mining company could be involved in different EAs being led by officials from Fisheries and Oceans, Public Works and Government Services Canada and other Federal Departments. None of these Departments had any experience with the mining sector. The Departmental officials appeared to be driven by the mandates of their particular Departments, not the goal of integrating environmental issues with sound economic development. Company representatives identified situations in which they had brought to the RA's attention, important environmental issues endemic to their industry.

The representatives noted that it is particularly difficult for a national EA regime to achieve proces. integration benefits in those countries where the national scheme is not harmonized with sub-national EA

requirements. The US, Canada and Australia were singled out as examples of such situations. Process integration benefits in Canada might remain ephemeral until a much greater degree of Federal-Provincial harmonization was achieved.

Study Benefits

Opinion was divided on whether there were study benefits (i.e., improvements in assessment quality and/or reductions in assessment costs) that could be attributed to national EA regimes. Some study benefits were identified, however, in the areas of socio-economic analysis and community consultation. The representatives pointed out that reductions in assessment costs in Canada would be achieved only when there was much greater harmonization of Federal and Provincial EAs.

Outcome Benefits

Many of the representatives suggested that their internal corporate EA approaches were more likely to identify environmental management issues than the national EA regimes. It was considered unlikely that an EA would identify environmental management issues and approaches that the companies were not already aware of. In fact, as we noted above, several representatives identified situations in which they had had to explain environmental management issues to the RAs. However, one company identified an improved biophysical mitigation approach that arose during an EA.

5.4 Export Credit Financing and National EA Regimes

The major focus of this research project was on the competitiveness impacts of national EA regimes on those sectors that are currently covered by the CEAA. However, the Steering Committee asked that we include a brief survey of selected MNEs to determine their views regarding the potential competitiveness impacts on their businesses of changing the current environmental review framework of Canada's Export Development Corporation (EDC). Two specific proposals to change the EDC's framework were made in the government's May 18, 2000 response to the report of the Standing Committee on Foreign Affairs and International Trade:

- a regulation specific to the EDC under the CEAA; or
- inclusion of an environmental review framework in the Export Development Act.

In fact, there are many ways in which the government could act on this issue, ranging from making all EDC-financing projects subject to the requirements of CEAA, to supporting the ongoing OECD-sponsored negotiations of a common approach for all export credit agencies. A preferred course of action has not been developed to date. Therefore, we had to fix some hypothetical scenarios for the companies to respond to. To this end, we said: *"Assume that all EDC projects would be subjected to the requirements of the CEA Act"*.

You will see that, while this hypothetical scenario provided a useful starting point for the discussions, the critical issue for the MNEs was not how, or the extent to which, the government brought EDC projects under the requirements of the CEA Act. Rather, the critical issue was the extent to which the businesses might be disadvantaged by any changes to EDC procedures that went beyond what was required of their international competitors.

We contacted senior representatives of four major Canadian firms that might be affected by such a change. Three of the firms were involved in the export of capital goods (power plants, manufacturing equipment, motors, etc.) while the fourth was an engineering services company. We interviewed representatives from each firm, building the interview around the following three questions.

1. *Are their export credit-funded sales subjected to domestic EA regimes in the countries in which they manufacture for export?*
2. *If so, has the application of the domestic EA regime affected (positively or negatively) their competitiveness?*
3. *Do domestic EA regimes and export credit-financing affect where their company decides to source its capital goods manufacturing for a particular opportunity?*

5.4.1 Key Findings

1. The USA was identified as the only OECD country that, in the companies' views, applied a formal EA regime to its export financing projects. The *USEXIM* Bank had adopted a variation on the World Bank standards for EAs and all export credit proposals were subjected to it.

   The companies were aware of the current EA approach used by the Canadian EDC to review projects brought to it. Several of the companies had undergone such reviews. They were also familiar with EDC's work at the OECD, leading the development of a common EA approach for all OECD export credit agencies (ECAs), and supported that initiative.

2. One of the companies had had direct experience with the competitiveness implications of the *USEXIM* approach to EA. Here is one example offered.

   A potential client in Asia had told the international parent that they would not consider US sourcing for the required capital equipment because EXIM processes took too long. The EA requirement was believed to be an important component of the delay.

   This particular company believed that it had approximately 12 such situations over a 5-year period. The total value of the affected procurements was approximately $1 billion US.

All of the company representatives referred to the statements made in the US (especially by the manufacturers of pulp and paper equipment and power generation equipment) about how the *USEXIM* environmental assessment approaches had been major factors in their losing international projects. They acknowledged that the *EXIM* claimed that it had not lost any projects because of its EA requirements, but doubted that that was true. *EXIM*, for example, would never know about the projects that were not brought to it because of its EA requirements. The representatives pointed out that the World Bank did not lend in a competitive environment. It offered concessional financing and so could impose additional EA requirements in return for the loans at below market rates. *EXIM's* EA standards were similar to the World Bank's and thus were not competitive.

Two of the companies identified situations in which their international bids had not been competitive due, in part, to even the current EIA requirements of Canada's EDC. In one case, the host country representatives had expressed sovereignty concerns about subjecting a project in their country to another country's (i.e., Canada's) domestic EA regime. In both cases, the EIA had added to the project cost. While not the sole reason for the project not being competitive, these costs were a contribution.

3. All of the company representatives had major concerns about the possibility that export-credit financed projects would be subjected to an EA under CEAA. They had presented formal statements of their concerns to the government through the *Alliance of Canadian Manufacturers and Exporters*. The representatives saw such a change as having a major, in one case possibly devastating, effect on their international competitiveness. The representatives made the following points.

   - Canada would be the only OECD nation, other than the USA, to impose such a requirement on its domestic industries. USA industry would not be as sorely affected because exports were not as important to the overall USA economy as to the Canadian economy, with some sectoral exceptions. These Canadian firms also competed for exports against companies from countries such as China that had no environmental requirements as part of their export credit financing that was already concessional when compared to the OECD norms that bound EDC.
   - The requirements under CEAA would not only impose extra costs on the domestic firm, but would also add considerable time to prepare a bid. Many of the EDC-financed projects of these companies were for international tenders that had fixed closing dates. The avenues for administrative appeals and judicial reviews under CEAA could further delay the preparation of a bid. An international competitor could use that route to disqualify the Canadian firm. A further concern was that their commercially confidential information could be compromised under the public announcement requirements of CEAA. The very fact that the firm was considering bidding on a particular tender was, in many cases, confidential information of strategic value.

- One company estimated that it would lose about 50% of its export sales of Canadian-manufactured equipment if its Canadian export financing were to be made subject to CEAA or to any other EA regime that went significantly beyond what was required of its foreign competitors. Export sales were currently about 60% of total sales. The immediate threat would not be just from foreign competitors. Rather, the international parent would choose to source the manufacturing from a sister company in another OECD nation that did not place such a requirement on its ECA. All of the manufactured equipment could be procured elsewhere. Thus, the Canadian firm would likely lose some of the engineering services but certainly all of the follow-on manufacturing procurement. This company had over 150 manufacturing subcontractors in Canada.

In summary, the company representatives urged the federal government not to impose the requirement that export credit financing be subjected to CEAA, nor to any other EA regime that placed them at a competitive disadvantage. The representatives recommended strongly that the government support the EDC in its efforts to lead the OECD to adopt a common set of EA standards for all export credit agencies. This was viewed as leaving Canadian industry at a competitive disadvantage to firms from non-OECD countries (e.g., China) but at least the export financing of the OECD nations would be on a level basis. The representatives also urged the government to resolve quickly the current uncertainty on the issue.

6. Overall Findings and Conclusions

The purpose of this project was to determine whether national EA regimes had an effect on a nation's competitiveness for industry capital investments, and whether national EA regimes adversely affected a company's subsequent (i.e., post-EA) competitiveness.

6.1 The Comparison of National EA Regimes

Each country has developed its own EA regime within its own national political and judicial system, and each EA regime has its own unique qualities, custom features and deviations, its own set of advantages and disadvantages. The following provides some general conclusions regarding the EA regimes examined in this study.

- Canada, the United States and Australia share many of the same characteristics or features in term of the EA regimes. To date, each has established non-statutory mechanisms for EA co-ordination and harmonization among its jurisdictions. Australia's new EA legislation, on the other hand, is intended to address many of the issues facing Canada and the United States regarding competitiveness and EA. However, substantial experience with this new Act has not yet been demonstrated.

- The European Community nations (United Kingdom, France and Germany) examined in this study have similar EA regimes due to their move towards EA harmonization through the adoption of European Commission directives concerning EA and other international initiatives. Differences among these nations exist, however, the fundamental premises of their EA regimes remain similar.

- The EA regimes of Japan and Chile are unique in many respects. The focus of environmental assessment in Japan is different from other developed countries as the environmental assessment regime in Japan tends to be less concerned with procedural detail than with the technological capacity to deal with environmental impacts. Chile, on the other hand, has developed a centralized one-window approach to EA and project approvals by placing the burden of implementing and administrating the EA regime on the National Environmental Commission(CONAMA) and its Regional Environmental Commissions (COREMAS).

The approach taken by Canada differs from most of the other countries examined in this study in terms of the following factors:

F2

- *Type of EA Process*

  Opportunities to 'scope' the assessment are not as formalized in Canada as elsewhere.

- *Scale of Projects Subject to EA*

  The Canadian EA regime can apply to small scale, medium and large scale projects. Most other EA regimes focus more on medium to large scale projects.

- *Nature of Approvals Received*

  Final project approvals need to be obtained through permitting processes of individual federal authorities in addition and subsequent to the EA process. Other (but not all) EA regimes offer a more integrated approach to project approvals.

- *Prescribed Steps*

  The steps that need to be taken to complete the EA process are partially prescribed in legislation or regulations. Most other countries prescribe the steps to complete an EA within statutory instruments.

- *Timelines*

  The Canadian EA regime offers a mix of both EA start-up and completion timelines depending on the EA track. Other EA regimes either do not specify any timelines or prescribe timelines for both EA start-up and completion.

- *Roles and Responsibilities*

  Non-statutory mechanisms are relied upon for harmonization among jurisdictions and coordination of the EA process within the federal government. Other EA regimes either rely more on statutory mechanisms or do not need to harmonize EA processes with other jurisdictions due to their national political structures.

- *Decision Levels*

  Other EA regimes tend towards completely decentralized or centralized systems for decision-making. In Canada, decision levels vary depending on EA tracks.

- *Participant Funding*

  Canada is unique in that the CEAA includes provisions for participant funding for Panel reviews and mediations.

- *Institutional Capacity Building*

  Institutional capacity building is viewed as a core activity of the federal government. Most other countries rely more on academia and the private sector to provide training to EA practitioners.

6.2 National Competitiveness for Investment and EA Regimes

The corporate representatives replied that:

- National EA regimes were not a significant component of national competitiveness for capital investments on the part of these large MNEs;
- the activities of national EA regimes were, generally, in accord with what their corporations do as routine due diligence in their business; and,
- seldom do EA technical requirements impose significant incremental costs on them.

With some exceptions, national EAs did not add significantly to overall project costs or to the costs of the resultant products/commodities. Of course, most of these companies were price-takers rather than price-makers and so profitability would suffer before prices would change. The most significant costs to companies arose when an EA delayed, or contributed to delaying, a project.

6.3 Relative Impacts on Firm Competitiveness of National EA Regimes

EA regimes can, however, affect the competitiveness of the firms that are subjected to them, even though EA schemes are not a primary component of national competitiveness for investments. We now examine the relative impacts of the national EA regimes, from both the *de jure* and *de facto* perspectives. We caution the reader, again, that this analysis is simplistic and is intended to indicate possible general directions only.

6.4 De Jure Ranking

The *de jure* analysis is derived from the tables in Section 4, the comparative analysis of national EA regimes in terms of 15 key factors. Recall that each table in Section 4 (tables 3-23, inclusive) places each of the selected countries in a matrix, with competitiveness increasing (roughly) towards the right of the matrix. Table 29 counts the number of times that each country was placed in the left, centre and right cell of the matrices. We remind the reader that a considerable amount of subjective judgment went into our placement of countries into cells. We expect there to be differences of opinion on where countries should have been placed.

Increasing competitiveness for industry investment occurs as country's numbers increase towards the right. From the perspective of relative competitiveness alone, a country would want a small number on the left, a big number on the right and a big difference between the number on the right and the number on the left.

Table 29. Summary of Country Placements in the Tables of Section 4

Number of Times Country is Placed	At Left *(i.e., barriers to competitiveness)*	In Centre	At Right *(i.e., promotion of competitiveness)*
Canada	4	13	4
Australia	5	9	7
Chile	3	6	13
France	5	5	11
Germany		6	8
United Kingdom	4	7	10
Japan	4	11	6
United States	6	8	7

We now list the countries in decreasing order of competitiveness according to the number of occurrences on the left of the tables, the number of occurrences on the right, and the difference between the score on the right and the score on the left.

Table 30. Competitiveness Ranking According to Critical Elements of EA Regimes

Ranking	Least Entries at the Left *(i.e., barriers to competitiveness)*	Most Entries at the Right *(i.e., promotion of competitiveness)*	Difference Between Right and Left
1	Chile	Chile	Chile
2	Japan, UK, Canada	France	UK, France,
3	Australia, France	UK	Japan, Australia
4	USA	Germany,	Germany, USA
5	Germany	Australia, USA	Canada
6		Japan	
7		Canada	

We see that:

- *Chile* scores first from all three competitiveness perspectives, with a high number of factors promoting competitiveness and the fewest barriers to competitiveness;
- *UK* and *France* probably rank second, with a high number at the right and a relatively large difference between the right and left scores;
- Canada's position is mixed. It ranks second-best in terms of the fewest impediments to competitiveness but also has the fewest factors that promote competitiveness. This is consistent with the fact that the Canadian EA regime scored the highest number of entries in the middle of the tables in Section 4; and,
- Germany and the United States have similar scores and tend to rank above Canada with more elements which promote competitiveness.

We caution that this is *a simplistic analysis*. It is intended to be directional only. The analysis:

- treats all the factors of Section 4 equally;
- assumes that we have been able to classify the national EA regimes appropriately according to these factors; and
- treats complex issues of comparison with simple addition and subtraction.

One shortcoming of this ranking is that it treats all factors equally. The representatives of the MNEs stated that some factors were more problematic than others. We now repeat Table 30 eliminating those factors that were not deemed to be of primary significance by the representatives and the two factors for which almost all of the countries scored equally (types of projects covered (Table 5) and risk assessment (Table 20)).

Table 31. . Competitiveness Ranking for the Key Factors, According To:

Ranking	Least Entries at the Left *(i.e., barriers to competitiveness)*	Most Entries at the Right *(i.e., promotion of competitiveness)*	Difference Between Right and Left
1	Chile, UK Japan, France	Chile	Chile
2	Australia, Canada	France	France
3	Germany	UK	UK
4	USA	Germany	Australia, Germany, Japan
5		USA, Australia	USA Canada
6		Japan	
7		Canada	

We see that focusing on the factors that are the most important in the minds of the MNE representatives does not change most of the relative rankings.

- *Chile* retains its leadership, scoring at the top for all three perspectives.
- *France* and the *UK* continue to be closely matched for second place.
- The *USA* position declines, in that it now has the greatest number of impediments to competitiveness and a low number of promoting factors.
- *Canada* continues to have the smallest number of factors that promote competitiveness, but still has a small number of factors that are barriers to competitiveness.

De Facto Ranking

The de facto ranking comes from Table 28 in Section 5, in which the MNE representatives rated the national EA regimes according to their impact on ability to access markets and compete for market share. The eight countries rank as follows:

Table 32. De Facto Ranking of Competitiveness According to the MNE Representatives

Competitiveness Ranking	Country
1	*Chile*
2	*Japan*
3	*France*
4	*UK*
5	*Australia*
6	*Germany*
7	*Canada*
8	*USA*

We caution that this ranking is even more simplistic than the *de jure* ones and it should be interpreted as directional only. Each company did not operate in all of the countries and so the comparisons are unmatched. As well, the companies carried out only a small number of projects in these countries, making statistical analysis impossible.

A Comparison of the De Facto and the De Jure Rankings

With the caveats firmly in mind we note that the *de facto* and the *de jure* analyses produce similar results, i.e.:

- Chile is clearly on top from the perspective of impacts on competitiveness; and
- Canada and the US continue to be ranked lowest in this comparison, with their relative positions varying according to the measure used.

6.5 Topics for Further Research

This analysis points towards some useful approaches to assessing the relative competitiveness of national EA regimes. Here are some topics for further research that would develop the approaches, increase the reliability of the conclusions reached to date and assist the Canadian Government in ensuring that its environmental assessment regime strikes a reasonable balance between competitiveness and the other objectives of Environmental Assessment.

- *Assess the impacts on competitiveness of the changes proposed to CEAA.* Following the completion of the work on the Five Year Review, the release of the government report and the proposed amendments to the CEAA; apply the scaling frameworks developed in this analysis to indicate the likely effects of the proposed changes on competitiveness. Some useful refining of the scaling frameworks could be done beforehand, or the current ones could be used for consistency.

- *Refine the list of EA elements critical to competitiveness proposed in Section 4.* Use international sector associations, a larger sample of MNEs and international EA experts to refine the list of EA elements that are most important to competitiveness. This refined list of critical EA elements could then be the basis for ongoing monitoring of the effects of the new CEAA on competitiveness, and for a re-examination of the *de jure* comparison of Section 4.

- *Increase the depth of the case studies to provide a factual base for the tentative conclusions reached in this work.* This would help determine if the difficulties reported by a company were caused by flaws in the EA regime, or if there problems with the project itself and/or the company's approach to the EA. Detailed analysis of the cases could provide important qualifiers to the conclusions reached in this study.

- *Compare in detail the actual EA processes and steps for similar projects in different countries.* Select similar projects (mining, pulp and paper, energy, etc.) in a few of the countries of interest and compare the EA processes in detail. Such case studies would help indicate where the relative strengths and weaknesses lie, from the perspective of competitiveness.

- *Assess the true incremental effects on the competitiveness of export credit financing of alternative approaches to environmental review frameworks.* The material in this report is anecdotal. It would be useful to examine some international cases in more detail to determine the particular aspects of environmental review frameworks that caused the greatest negative effects on the competitiveness of export credit financing. Is it the cost of doing a review even before a company has won the export project? The extra time that is taken by particular approaches to the environmental review? The loss of confidentiality that a company is even considering to bid, let alone the details of its bid? Or other elements that result in the bid either being sourced by a sister company in another country or going to a foreign-based competitor?

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Appendix A

Interview Guide for Review of National EA Regimes

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Interview Guide for Review of National EA Regimes

The specific questions in the interview guide have been developed to help us understand the basic elements or requirements of your country's national EA regime. We have organized our questions according to 15 critical areas of inquiry. We ask that you review these questions and provide us with answers where appropriate. We fully understand that some questions may not apply to your EA regime.

Strategic Purpose

1. Does your Environmental Assessment (EA) legislation or other documentation specifically define a strategic purpose for conducting and EA? If yes, please describe the strategic purpose.

2. Does your EA legislation or other documentation define the term 'environment'? If yes, please state this definition.

3. Are effects on socio-economic conditions (including effects on human health) specifically included in any definitions contained in your EA legislation or other documentation? Please describe.

4. What are the requirements for the consideration of alternative means and alternatives to the project?

5. What are the requirements for the consideration of need and purpose of a project?

6. What are the requirements for the consideration of cumulative environmental effects of a project in combination with other past, existing and future projects and activities?

7. What are the requirements for follow-up?

Type of EA Process

8. Is EA used as an impact statement tool or primarily as a planning tool on individual projects (i.e., to assist in decision-making from earliest project stages)?

9. If EA is primarily used as a planning tool on individual projects, does your EA legislation allow for its application to "issues" other than individual projects (i.e., Are there provisions for strategic EA, or the application of EA to policies, plans or programs ?)

10. Does your EA legislation provide for a more thorough assessment for more complex, larger scale or potentially more environmentally significant projects? Please identify the EA tracks or processes included in your EA legislation.

Scope of Coverage *(i.e., What/whose projects/activities does EA legislation intend to capture ?)*

11. Is the scope of coverage of your EA process defined in legislation, policy, regulation or other documentation? In other words, does your EA legislation define to what triggers the application of your EA legislation ?

12. What is the scope of coverage of your EA process (i.e., what triggers the application of your EA legislation)? Please describe in detail.

13. Does the scope of coverage of your EA process include both physical works and activities not related to physical works? Please provide examples.

14. Under what conditions (if any) is discretion afforded to a responsible authority in determining the scope of coverage of your EA legislation?

15. Does your EA legislation require that EA be conducted for extra-jurisdictional projects(i.e., projects undertaken outside of your country's borders)

16. What is the scope of coverage of these extra-jurisdictional requirements?

Level of Coverage *(What types /scale of projects does the EA Legislation intend to capture ?)*

17. Are any projects excluded from your EA process? If yes, what projects are specifically excluded? Please provide some examples.

18. If your EA legislation provides for a more thorough assessment for more complex, larger scale or potentially more environmentally significant projects, please list the types of projects requiring a more detailed EA for the following sectors.

    - Forestry / Pulp and Paper
    - Energy / Oil and Gas
    - Mining
    - Manufacturing

Nature of Approvals Received *(i.e., What type of approvals are necessary for project approval ?)*

19. How are projects subject to your EA process approved?

    - Does your EA process provide for approval of project through a formal EA approval (e.g., EA certificate of approval) from single EA agency?
    - EA process provides for a combination of EA approval from an EA agency and permitting processes of other agencies
    - EA process provides for approval of project through permitting process of individual Federal Authorities, separate from EA process
    - Other (please describe the approval process)

Prescribed Steps

20. Are there any prescribed steps to undertake an EA process identified in the legislation or regulations? Please describe.

21. What are the key formal decision points in the EA process ? Please describe.

22. Which of these key formal decision points are subject to appeal ? (See Appeal Subsection)

23. At which decision point is the EA process complete ?

Timelines

24. Are there any timelines or co-ordination procedures for EA start-up (i.e., time period during which a Federal Authority determines the applicability and/or scope of an EA process) mandated by legislation, regulation or policy? Please describe.

25. Are there any timelines or co-ordination procedures for EA completion (i.e., the time from completion of EA start-up to formal decision on EA) mandated by legislation, regulation or policy? Please describe.

Roles and Responsibilities

26. Are there any co-ordination procedures for EA start-up (i.e., time period during which a Federal Authority determines the applicability and/or scope of an EA process) mandated by legislation, regulation or policy? Please describe.

27. Are there any co-ordination procedures for EA completion (i.e., the time from completion of EA start-up to formal decision on EA) mandated by legislation, regulation or policy? Please describe.

28. Do any other non-National EA processes exist in your country that are mandated by legislation (e.g., state, provincial, regional)? Please explain.

29. Does your National government have any institutional arrangements in-place with other internal jurisdictions regarding the application of National EA for projects of mutual interest? How comprehensive are these arrangements?

30. Does your National government have any institutional arrangements in place regarding the application of other extra-jurisdictional EA processes regarding the application of National EA for projects of mutual interest. Please list these other jurisdictional EA processes and the institutional arrangements that exist.

Decision Levels

31. Who has final decision-making responsibility for EAs undertaken in accordance with your National EA legislation?

    - Single authority (e.g., Minister, Agency etc.) has decision-making responsibility for all EA processes or projects. Please describe who has decision-making responsibilities?
    - Decision-making authority varies depending upon EA process or project (i.e., single/centralized vs. shared authority). Please describe who has decision-making responsibilities?
    - Multiple authorities share decision-making responsibilities for all EA processes or projects. Please describe who has decision-making responsibilities?

Public Participation

32. Does your EA legislation affords opportunity for public participation in the EAs process. For the purposes of this question, public participation refers to actions taken to seek public comments during the EA process and does not include formal public reviews or hearings?

33. Under what conditions is public participation mandatory (e.g., selected EA processes or projects?

34. If your EA legislation requires EAs to be undertaken for extra-jurisdictional projects (i.e., projects outside of your country) does your EA legislation affords opportunity for public participation in the EAs process? Please describe.

35. Are there any mandatory requirements for public notice of an EA under your National legislation? If yes, please describe.

36. Are there any mandatory requirements for public hearings and/or public reviews of projects subject to EA? If yes, under what conditions are such reviews/hearings required?

37. What other legislative mechanisms exist for undertaking public hearings and/or public reviews of projects subject to EA?

38. Are there any provisions in your EA legislation that would guaranteed public access to all project / EA information? What are these provisions?

39. Are there any provisions in your EA legislation or otherwise that protect confidential or commercially sensitive information from public access? What are these provisions.

Participant Funding

40. Do any legislative requirements exist for the provision of participant funding during EA process? Participant funding refers to money given to outside or third parties to facilitate their participation in the EA process (e.g., public hearings or reviews undertaken as part of the EA process).

41. Under what conditions is the provision of participant funding during the EA process possible?

42. Are there any limitations or restrictions to the amount of participant funding that is to be provided?

Appeals Process

43. Does the EA legislation afford interested parties with opportunities for a non-judicial appeal of an EA decision?

44. If yes, please describe the appeals process in terms of when or under what circumstances an appeal can be launched of an EA decision (interim or final decision points) and who has decision-making authority over such appeals?

45. Does your EA or other legislation contain provisions that would serve to limit public access to the courts/judicial system to challenge EA decisions? If yes, what are these provisions.

Type of Risk Assessment Incorporated

46. What types of risk assessments are undertaken by project proponents as part of the EA process?

47. Are there any provisions in EA legislation, regulation or policies mandating some form of risk assessment to be undertaken as part of the EA process? Please describe.

Institutional Capacity Building

48. Are there any legislative requirements for the National government to conduct training or undertake institutional capacity building efforts? Capacity building refers to the ability of the National government to issue guidelines, codes of practice, criteria, etc., respecting the application of your EA legislation? If yes, please describe these requirements?

49. If training regarding the application of your EA legislation is conducted by the National government, who is responsible?

50. What formal training opportunities are made available by the National government?

51. Please list any guidance documents that have been developed by the National government regarding the application of your EA legislation.

Special Sectoral Requirements or Considerations

52. Are there any special requirements for EA applicable to the following specific sectors? Please describe.

    - Forestry / Pulp and Paper
    - Energy / Oil and Gas
    - Mining

53. Have any specific EA processes, including class environmental assessments, been established for a specific sector? Please describe.

54. Please list and briefly describe any guidance documents that have been developed by the National government regarding the application of your EA legislation to the following specific sectors:

    - Forestry / Pulp and Paper
    - Energy / Oil and Gas
    - Mining

Appendix B

Interview Guide for Companies

Appendix B

Interview Guide for Companies

Key Investment Decision Factors: An Overview

1. Based on your practical experience in making corporate investment location decisions, what **10 factors are of primary importance** in your firm's decisions to invest or not to invest in particular countries? A list of possible factors is provided below for you to choose from.

Select up to 10 Factors	Possible Investment Location Decision Factors
	Construction costs
	Economic environment (price stability, economic growth, constraints on capital flows, business and consumer confidence, fiscal/public debt, cost of living)
	Environmental assessment regulation
	Environmental regulation (control of chemical substances, emission requirements, handling and disposal requirements, etc.)
	Currency exchange rates
	Financing costs (cost/quality/availability of financing)
	Human resources (cost/quality/availability of skilled labour)
	Infrastructure (cost/quality/availability of transportation, energy, communications)
	Land/property rights acquisition
	Other regulations (corporate governance, OSH, consumer protection, financial transactions, statistical reporting, land use/zoning, intellectual property, etc.)
	Political factors (political stability, public attitudes toward industry)
	Projected ROI for the project
	Proximity to customers/suppliers/business partners and raw materials.
	Social factors (quality of education, personal safety, quality and availability of health care, climate and physical environment, lifestyle amenities)
	Package of incentives for the particular investment (Tax, subsidies, market access and other incentives)
	Taxes (income, property, customs/excise, goods/services or VAT, sales tax, commodity taxes, investment tax credits)
	Other (please specify):
	Other (please specify):
	Other (please specify):
	Other (please specify):

Key Investment Decision Factors, By Country

2. In which of the following countries has your firm invested or considered investing in the past 5-8 years? Considering your answers to question #1, are particular decision factors more important than others by country? If so, please list a few of the **most important factors that influenced your decision** to invest or not to invest in each particular country that you considered.

	Has your firm invested or considered investing in this country?	**Please list the most important decision factors in each country and whether they had a positive (+) or negative (-) influence on your firm's decisions**
Australia		
Canada		
Chile		
France		
Germany		
Italy		
Japan		
United Kingdom		
United States		

Ranking National EA Regimes in Investment Decisions, by Country

3. For the countries where you have invested or have considered investing over the past 5 to 8 years, **to what extent were the national EA regimes a factor** in your investment decisions? Please tick the appropriate box for each country.

	No Experience With This Country	**Always Secondary**	**Usually Secondary**	**Usually Primary**	**Always Primary**
Australia					
Canada					
Chile					

	No Experience With This Country	Always Secondary	Usually Secondary	Usually Primary	Always Primary
France					
Germany					
Italy					
Japan					
United Kingdom					
United States					

Competitiveness Impacts of National EA Regimes

The following questions relate to 2 particular measures of competitiveness that have been identified by our clients for this study: (1) the ability of firms to access and compete for market share, and (2), the ability of firms to adapt and compete in the international marketplace and in international tendering and bidding processes

4. For the countries where you have invested or have considered investing over the past 5 to 8 years, **to what extent were national EA requirements a factor in your firm's ability to access markets and compete for market share**? Please mark the most appropriate box for each country using a "√", "+" or "–".

	No Experience With This Country	No Effect	Always Minor	Usually Minor	Usually Significant	Always Significant
Australia						
Canada						
Chile						
France						
Germany						
Italy						
Japan						
United Kingdom						
United States						

5. For the countries where you have invested or have considered investing over the past 5 to 8 years, **to what extent were national EA requirements a factor in your firm's ability to adapt and compete in the international marketplace and in international tendering and bidding processes?** Please mark the most appropriate box for each country using a "√", "+" or "–".

	No Experience With This Country	No Effect	Always Minor (+ or -?)	Usually Minor (+ or -?)	Usually Significant (+ or -?)	Always Significant (+ or -?)
Australia						
Canada						
Chile						
France						
Germany						
Italy						
Japan						
United Kingdom						
United States						

If you have answered "Usually Significant" or "Always Significant" in any of the boxes in questions 4 and 5, please go to question 7 on the next page.

6. If you indicated in questions 4 and 5 that national EA regimes are not a significant factor for competitiveness, please provide a **brief explanation** as to why.

_____

_____

_____

_____

_____

_____

Please go to question 14.

Assessing Specific Features of National EA Regimes

7. You have indicated that national EA regimes have an impact on at least one of the two indicators of competitiveness. Please describe briefly the **specific features of the national EA regimes that have the greatest impacts on industrial competitiveness**, for as many of the selected countries as you can comment on. Below is a list of some features of national EA regimes that might be useful to you in considering your response.

	Specific EA Features With Greatest Impact on Competitiveness
Australia	
Canada	
Chile	
France	
Germany	
Italy	
Japan	
United Kingdom	
United States	

Some specific features of EA regimes to consider:

- Type/Purpose of EA Process
- Types/Scale of Projects Requiring an EA
- Nature of the Approvals Received from the EA Process
- Amount of Time and Steps Required for Approval
- Who Makes Decisions in the EA Process
- Public Participation and Funding
- Ability to Appeal Decisions
- Guidance and Training Provided by Government
- Special Requirements for Your Sector (e.g., mining, energy)

8. For those specific features you identified in question 7, please comment briefly on **how Canada's EA approach compared** with those of the other nations.

Impacts of National EA Regimes on Project Planning and Implementation

9. Do the features of the national **EA regimes generally coincide with your firm's normal project planning and implementation approaches**? Or do the two differ significantly? For example, are there aspects of your normal product life-cycle analyses or product stewardship activities that are consistent with or complement some national EA requirements? Please identify below the particular features of national EA regimes that are consistent with, or conflict with, your firm's normal practices.

	Which specific EA features coincide with or conflict with your firm's normal project planning and implementation approaches?
Australia	
Canada	
Chile	
France	
Germany	
Italy	
Japan	
United Kingdom	
United States	

10. To what extent do national EA regimes impose **financial or other resource costs on project planning, implementation or other activities** within your company? Please tick the most appropriate box for each source of cost (increased $ costs, increased time delay, or other costs such as increased paperwork, hassle, etc.) within these activities.

Activity	Source of Cost	No Effect	Always Minor	Usually Minor	Usually Significant	Always Significant
Project Planning	↑ *$ Costs*					
	↑ *Delays*					
	Other					
Project Implementation, including mitigation measures	↑ *$ Costs*					
	↑ *Delays*					
	Other					
Other Activities, please specify:	↑ *$ Costs*					
	↑ *Delays*					
	Other					

If you did not identify any significant cost elements in question 10, please go to question 14.

11. If you identified either "Usually Significant" or "Always Significant" cost effect in question 10, can you break out the type of costs attributable to national EA regimes? Please indicate in the table below an approximate **percentage cost increase**, by activity and type of cost (financial, personnel, other). Financial costs include costs of consultants, studies, testing, etc. Personnel costs include increased in-house human resource cost and time.

Activity	Type of Cost	Australia	Canada	Chile	France	Germany	Italy	Japan	United Kingdom	United States
Project Planning	*Financial*									
	Personnel									
	Other									
Project Implementation *including mitigation measures*	*Financial*									
	Personnel									
	Other									
Other Activities, *please specify:*	*Financial*									
	Personnel									
	Other									

12. Did the costs you identified in questions 10 and 11 have a negative effect on the **overall costs of products or services from the investment project**?

☐ Yes ☐ No

Can you compare the effects across the countries you have invested or considered investing in?

13. If you identified time delays as a cost factor in question 10, **did such time delays have a negative effect on your ability to access international markets**?

☐ Yes ☐ No

Can you compare the potential effects across the countries you have invested or considered investing in?

Potential Benefits to Corporations of National EA Regimes

14. The ongoing monitoring program of Canada's national EA regime identified three types of benefits to firms of participating in the national EA. They are described below.

Has your company received any of these benefits, or other benefits, of meeting national EA requirements in the countries of interest to this research? Or, would your company have met all of the requirements of the national EAs even in the absence of such regulations? Please select the countries in which you have the most experience and describe briefly below your answer.

	Please describe briefly any potential benefits of national EA regimes by country
Australia	
Canada	
Chile	
France	
Germany	
Italy	
Japan	
United Kingdom	
United States	

List of potential EA benefits to consider:

- *process benefits*: the national EA regime provides an effective/efficient framework for integrating environmental considerations with the company's project planning and implementation.
- *study benefits:* improvements in assessment quality and a reduction in assessment costs
- *outcome benefits:* environmental impacts avoided in the assessment or mitigated during project implementation

Specific Investment Project Examples

Can you illustrate the impacts you have discussed above with any specific examples of investment projects that could have taken place in Canada or another country but did not, or did so but at a different scale, because of EA requirements?

Thank you for your assistance. If you have any questions, please call Doug Blair at (613) 860-1374 or via email at doug.blair@sympatico.ca. Our website: www.riasinc.com

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Appendix C

Company Interview List

Appendix C

Company Interview List

Forestry & Forest Products

- **Nexfor**

  Nexfor is a Canadian-owned forest products company that supplies customers with a building materials, paper and pulp and European panel products. Nexfor has operations across North America and the United Kingdom.

- **Cascades**

  Cascades Inc. is a Canadian-owned company producing packaging products, fine papers and tissue papers. Internationally, the Cascades Group employs close to 12,000 people and operates in 114 locations across Canada, the United States, France, England, Germany and Sweden.

Mining

- **Rio Algom**

  Rio Algom Limited is a Canadian-owned international mining and metals distribution company mining with assets of $2.7 billion. It produces copper, gold, uranium and coal from mines in Canada, the USA, Chile and Argentina. It is also active in mineral exploration in North and South America, Europe and Africa.

- **Rio Tinto**

  Rio Tinto is one of the world's leading mining companies operating in 40 countries around the world employing more than 34,000 people. Tinto's 1999 sales were US$ 9.3 billion. Rio Tinto has considered, or has invested in, 7 of the 9 countries examined in this study. Only Japan and UK are not investment sites- no suitable mineral deposits there.

- **Inco**

  Inco is Canadian-owned mining company that is the leading world producer of nickel metal, supplying about 24 per cent of the world market. Inco also mines and processes copper, cobalt and 11 other metals, primarily from Canadian ores. Inco employs more than 10,000 people in 15 countries around the world. Inco has investments in Canada, in New Caledonia (which follows French environmental law as a French protectorate), Australia, UK, US and Japan.

- **Falconbridge**

  Falconbridge is a Canadian-owned mining company that produces nickel, ferronickel, copper, zinc, cobalt, precious and platinum group metals, cadmium, indium and sulphuric acid products. Falconbridge employs 6,400 people in 14 countries including Canada, Australia, Chile and New Caledonia (France).

Energy

- **Suncor Energy Inc.**

  Suncor is a Canadian-owned energy company, with assets of $5.1 billion and production of 142,800 barrels of oil equivalent per day. Suncor employs 2,700 people and has spent over $35 million on capital for environmental projects in the past three years. Suncor has interests in Canada, Australia and the US.

- **Alliance Pipeline**

  Alliance Pipeline is one partner in developing a pipeline system that will transport natural gas from northeastern British Columbia and northwestern Alberta to a terminus near Chicago, Illinois. Alliance operates in Canada and the US.

- **Luscar**

  Luscar is Canada's leading coal producer and among the largest suppliers of coal in North America, with annual revenues of approximately $700 million and about 2500 employees. Luscar's operations are based in Canada, but they have examined many investment opportunities in other countries (especially in Australia and some 3rd world countries).

Mining and Manufacturing

- **Alcan Aluminum**

  Alcan Aluminum Limited is the Canadian parent company of an international group of companies with operations in over 30 countries. The Alcan Group is involved in bauxite mining, alumina refining, power generation, primary aluminum activities, fabrication of sheet, foil, flexible packaging, cable and extrusions as well as recycling activities and secondary metal production. Alcan has interests in each of the countries examined in this study except Chile.

Engineering/Project Management

- **SNC/Lavalin**

  SNC-Lavalin Group is a major engineering and construction firm involved in engineering, procurement, construction, project management and project financing. SNC has offices across Canada and in 30 other countries, with current projects in some 100 countries. SNC has experience with investments in all countries in the study (Italy, Japan and Germany to a minor extent) and has experience with EA regimes in Australia, France, Germany, Canada and Chile.

Chemical

- **Dow**

  The Dow Chemical Company is a major international chemical company that develops and manufactures a portfolio of chemicals, plastics and agricultural products and services for customers in 162 countries around the world. Dow has 123 manufacturing sites in 32 countries, and supplies more than 2,400 products. Dow has investments in every one of the countries under study (minor in Japan).

- **Dupont**

  DuPont is a major international chemical company with annual revenues of about US $ 27 billion and 94,000 employees in 70 countries and 135 manufacturing and processing facilities worldwide. Dupont operates in each of the nine countries considered in this study.

Export Credit Financing

Several of the four companies involved asked that they not be identified, given the small sample size. To protect confidentiality, we have withheld the names of all four. Together, the four companies cover the fields of consulting engineering, design/build, diversified technology, manufacturing and fabrication, installation, procurement, and project management in energy, pulp and paper, consumer products and other industries.

The companies are large multinationals and operate in more than 100 countries around the world. All are extensive users of the export credit agencies of the countries in which they operate.

Appendix D

Data Sources for EA Comparison

Appendix D

Data Sources for EA Comparison

Australia	*Websites*	• http://www.environment.gov.au/epbc/index.html • http://www.environment.gov.au/ • http://www.environment.gov.au/epg/eianet/index.html
	Literature	• Environment Australia, 1999: An overview of the Environment Protection and Biodiversity Conservation Act.
	Contacts	• Mr. Paul Garrett, Director, Approvals and Legislation Division, Environment Australia (Personal Communication, July 31, 2000)
Chile	*Websites*	• http://www.conama.cl/seia/regeia_inglés.htm
	Literature	• Environment Canada, 1996: Environmental Management in Chile. Report prepared by the Regulatory Affairs and Program Integration Directorate, Environmental Protection Service, November, 1996.
	Contacts	• Ms. F. Tondreau, Departmento de Evalvacion de Impacts Ambiental (EIA) (Personal Communications, August 8, 2000) • Mr. L. Bustos Inda, General Manager, SENES Chile S.A. (Personal Communications, July 30, 2000)
France	*Websites*	• http://www-penelope.drec.unilim.fr/
	Literature	• Mansier, 1999: Comparative E.I.A. Between United Kingdom and France.
	Contacts	• Mr. Georges Guignabel, Ministére de l'amenagement du territoire et de l'environement (Personal Communication, July 29, 2000)
Germany	*Websites*	• http://www.penelope.uni-bremen.de/
	Literature	• Lawrence, D., 1999: Trends in Environmental Assessment. Report prepared for the Canadian Environmental Assessment Agency (April 1999).
	Contacts	• Dr. Thomas Bundge, Director, Environmental Impact Assessment Unit, Umweltsbundesant (Personal Communication, July 26, 2000)
Japan	*Websites*	• http://www.eic.or.jp/eanet/en/lar/assess/index.html • http:www.epcc.pref.osaka.jp/apec/eng/assess/index.htm
	Literature	• Government of Japan, 1997: The Environmental Impact Assessment Law. Tentative translation by Environmental Agency of Japan.
	Contacts	• Mr. Shigeru Komori, Environment Impact Assessment Division, Planning and Co-ordination Bureau, Environment Agency (Personal Communication, August 9, 2000).
United Kingdom	*Websites*	• http://www.planning.detr.gov.uk/eia/assess/index.htm • http://www.hmso.gov.uk/si/si1999/99029302.htm
	Literature	• Lawrence, D., 1999: Trends in Environmental Assessment. Report prepared for the Canadian Environmental Assessment Agency (April 1999).
	Contacts	• Mr. Jim Burns, Environmental Impact Assessment Branch, Department of Environment, Transportation and Regions (Personal Communication, July 25, 2000)
United States	*Websites*	• http://es.epa.gov/oeca/ofa/nepa.html • http://ceq.eh.doe.gov/nepa/nepanet.htm • http://www.cec.org
	Literature	• Bear, D., 1989: "NEPA at 19: A primer on an "Old" Law with Solutions to New Problems" in Environmental Law Reporter, Environmental Law Institute. • Lawrence, D., 1999: Trends in Environmental Assessment. Report prepared for the Canadian Environmental Assessment Agency (April 1999).
	Contacts	• Ms. Grace Musemeci, Chief, Environmental Review Section, US Environmental Protection Agency (Personal Communication, August 2, 2000)